



Measurement of Road User Charges in the United States

Comparison of BLS CES Data and Highway User Fee Data

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Microdata Users Conference

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Today's Talk

- The Changing Nature of Transportation Fees
- Discuss various forms of road pricing
- Explore how we could measure the cost of road pricing.
- Discuss the future needs for tracking road user fees.
- Compare CES data to other data sources for road pricing

Old School Road Finance

Federal and State Fuel Taxes

1920's – Today

Catch the Fuel – Catch the Tax

Changing Road Costs

- We are moving from a system that is priced in a bulk and a flat way to a system that has more variable pricing components
- Based on route
- Based on mode
- Based on congestion
- Based on geographic area

Times are Changing

Fuel Tax is an Excise Tax (fixed cents per gallon)

Not Keeping Pace with Inflation

Political Will to Increase is Lacking

So – Road Pricing

Lots of Road Pricing “Flavors”

- Simple Road Tolls
 - Time of Day Pricing
 - Congestion Pricing
 - HOT Lanes
 - Express Lanes
 - Vehicle Miles Traveled Fees*
 - Carbon Taxes*
-
- *Future fees





EZPass EXPRESS

495 SOUTH

JONES BR	\$0.30
I-66	\$0.95
I-395-95	\$1.80

EXIT ONLY ↓

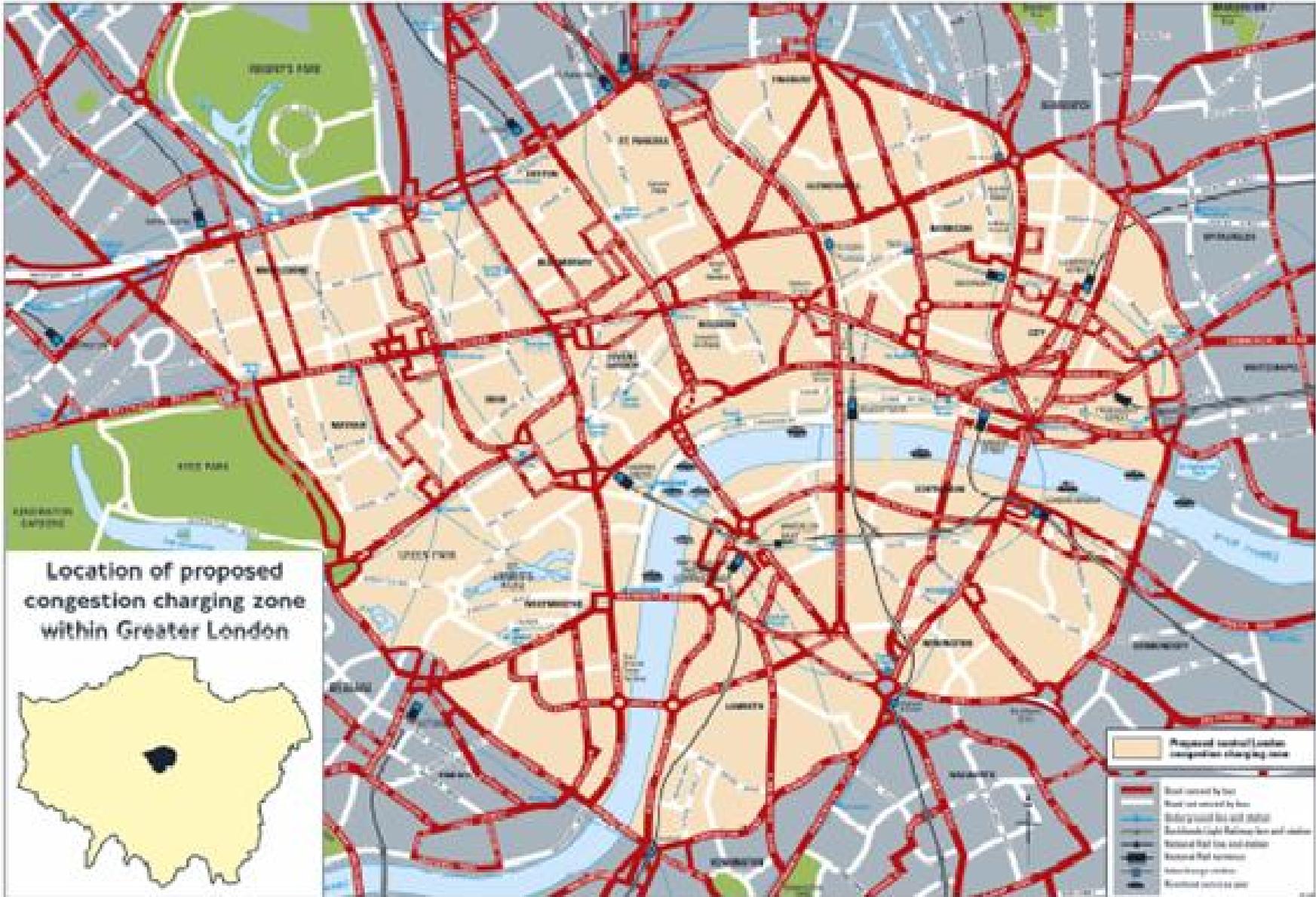
SOUTH

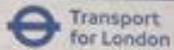
495



WASH YOUR
HANDS
FOR I-95







Transport for London

Congestion charging



Central
ZONE

Mon - Fri
7 am - 6.30 pm





Enforced by Photo Recognition of License Plates

Spends roughly half of
money collected on
collection and
enforcement

8£ charge to enter zone
(day of travel) 10£ if
paid by next day

Operates from 7:00 AM
until 6:00 PM

Weekdays

120£ fine for failure to
pay zone charge



How did we
(Transportation Finance Folks & Urban Planners)
wind up here at the BLS?

Why are we interested in tracking the
cost of tolls?

Sources of Capital Funds

The Federal Highway Administration (2000) reports the following major sources of highway-user revenues:

	U.S.	NYS	NJ	PA	NV	SC
• Federal Fuel Taxes –	\$34.7B	\$1.4B	.987B	1.41B	206M	628M
• State & Local Fuel & Other -	\$58.6B	\$2.2B	1.173B	2.56B	438M	536M
• Tolls –	\$ 6.6B	\$2.0B	.711B	.54B	0.6M	0M
• Total	\$99.9B	\$5.6B	2.872B	4.50B	644M	1.164B

Nationally, about 80% of this money is spent on Roads and 9% is spent on Mass Transit. NYS is 67% Roads and 26% Mass Transit. Pennsylvania is 84.2% Roads and 7.5% Mass Transit

Tolls are currently a small portion of the transportation capital funds. But there is a growing interest in tolls.

Note – 49.02% of the nation’s toll dollars are collected in the three Mid-Atlantic States of New York, New Jersey & Pennsylvania. (Federal Highway Administration) Roughly 30% NYS, 11% NJ and 8% PA.

Sources of Capital Funds

The Federal Highway Administration (**2012**) reports the following major sources of highway-user revenues:

	U.S.
• Federal Fuel Taxes –	\$33.8B
• State & Local Fuel & Other -	\$55.0B
• Tolls – (AKA Road Pricing)	\$ 11.8B
• Total	\$100.6B

- **Is the “Road Pricing” Bucket well tracked?**
- **Road Pricing may increase to 25-30 Billion in Next 10 years.**

Other CES Spending Categories

Fish and seafood	122	122	128	135	117	121	126	\$15,676,416,000
Eggs	37	43	51	44	46	50	53	\$6,594,048,000

Reading	117	118	116	110	100	115	109	\$13,561,344,000
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- Apparel

Girls, 2 to 15	122	122	121	118	101	117	116	\$14,432,256,000
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Boys, 2 to 15	91	84	83	79	78	80	88	\$10,948,608,000
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HISTORY AND PROJECTION OF TRAFFIC, TOLL REVENUES AND EXPENSES AND REVIEW OF PHYSICAL CONDITIONS OF THE FACILITIES OF TRIBOROUGH BRIDGE AND TUNNEL AUTHORITY

Table 3 Historical Trends in Cash Passenger Car Toll Rates

Year	RFK, Bronx-Whitestone and Throgs Neck Bridges, and Queens Midtown and Hugh L. Carey Tunnels ^(a)	Verrazano-Narrows Bridge ^(b)	Henry Hudson Bridge	Marine Parkway & Cross Bay Bridges
1971	\$0.25	\$0.50	\$0.10	\$0.10
1972 – 1975	0.50	0.75	0.25	0.25
1975 – 1980	0.75	1.00	0.50	0.50
1980 – 1982	1.00	1.00	0.60	0.75
1982 – 1984	1.25	1.25	0.90	0.90
1984 – 1986	1.50	1.50	0.90	0.90
1986 – 1987	1.75	1.75	1.00	1.00
1987 – 1989	2.00	2.00	1.00	1.00
1989 – 1993	2.50	2.50	1.25	1.25
1993 – 1996	3.00	3.00	1.50	1.50
1996 – 2003	3.50	3.50	1.75	1.75
2003 – 2005	4.00	4.00	2.00	2.00
2005 – 2008	4.50	4.50	2.25	2.25
2008	5.00	5.00	2.75	2.50
2009	5.50	5.50	3.00	2.75
2010 – 2013	6.50	6.50	4.00	3.25
2013 – 2014	7.50	7.50	5.00 ^(c)	3.75

Notes:

- (a) At the Hugh L. Carey Tunnel (formerly Brooklyn-Battery Tunnel), the cash passenger car toll rates were \$0.35 in 1971 and \$0.70 in 1972.
- (b) Since March 20, 1986, round-trip tolls (twice the amount shown) have been collected on the Verrazano-Narrows Bridge in the westbound direction only in compliance with a Federal legislative mandate. Eastbound traffic uses the bridge toll-free. These amounts are the equivalents of collecting tolls in each direction.
- (c) Effective November 10, 2012, cash customers pay via the Tolls by Mail program as part of the AET pilot program at the Henry Hudson Bridge.

NYC
MTA

3000%
Increase
In
Cash
Price

1971 to
2014

In general, tolls for vehicles over 7,000 pounds have also been adjusted upward whenever passenger car toll rates were increased. Notable exceptions occurred in 1987 and 1989 when these toll rates were not raised while there was a general increase for passenger cars. Historically, these vehicles received toll reductions on any TBTA facility when they used pre-paid accounts (as of February 5, 2013, pre-paid accounts are no longer required to obtain a reduced toll rate). This plan continues with E-ZPass with the exception of non-NYCSC customers.

Over the years, various resident toll reduction programs have been implemented. As noted earlier, registered residents are currently eligible for a full rebate of the Cross Bay Bridge crossing

Federal Highway Administration Data

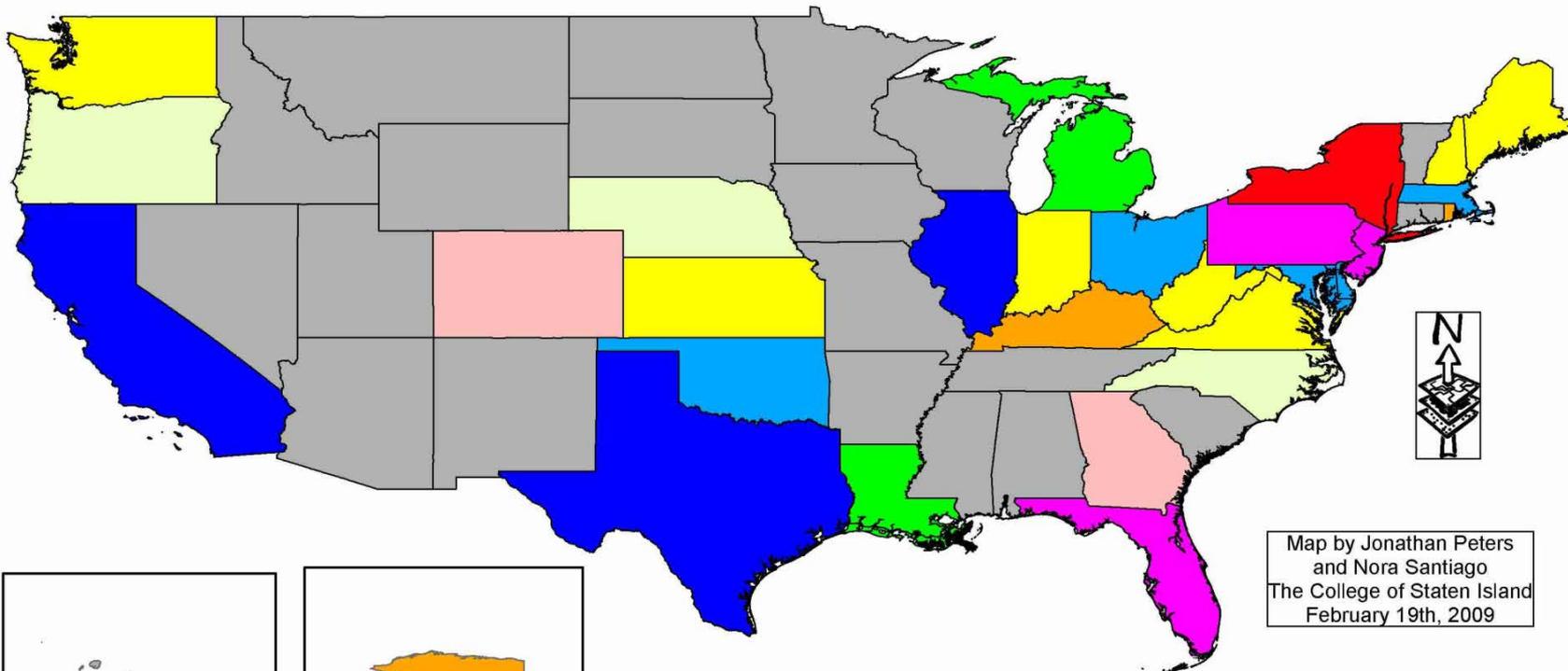
State Level Reporting of Collection:
Where Toll is Collected

Year 2000 Fuel Tax and Tolls

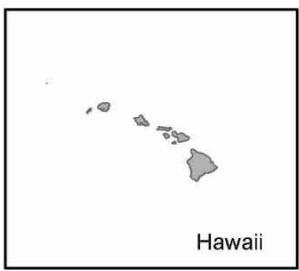
FHWA Statistics

STATE	\$(000) STATE AND LOCAL FUEL AND VEHICLE TAXES	\$(000) STATE AND LOCAL TOLLS	Percent of U.S. Tolls	Rank	Cumulative Percent
New York	2,193,452	1,987,071	30.12%	1	30.1%
New Jersey	1,173,185	711,611	10.79%	2	40.9%
Florida	3,254,862	614,959	9.32%	3	50.2%
Pennsylvania	2,559,311	534,789	8.11%	4	58.3%
California	7,554,477	450,378	6.83%	5	65.2%
Illinois	2,341,302	390,002	5.91%	6	71.1%
Texas	6,886,299	376,313	5.70%	7	76.8%
Massachusetts	951,183	229,267	3.48%	8	80.3%
Ohio	2,085,499	177,310	2.69%	9	82.9%
Maryland	1,641,212	148,909	2.26%	10	85.2%
Delaware	200,269	146,627	2.22%	11	87.4%
Oklahoma	927,994	132,344	2.01%	12	89.4%
Virginia	1,854,916	112,944	1.71%	13	91.1%
Washington	1,473,561	97,914	1.48%	14	92.6%
Indiana	1,284,492	85,325	1.29%	15	93.9%
Kansas	524,601	61,198	0.93%	16	94.9%

2000 Toll Collection State Ranking Based on Data from the Federal Highway Administration



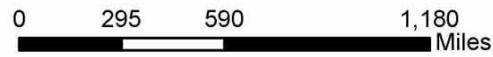
Map by Jonathan Peters
and Nora Santiago
The College of Staten Island
February 19th, 2009



Hawaii



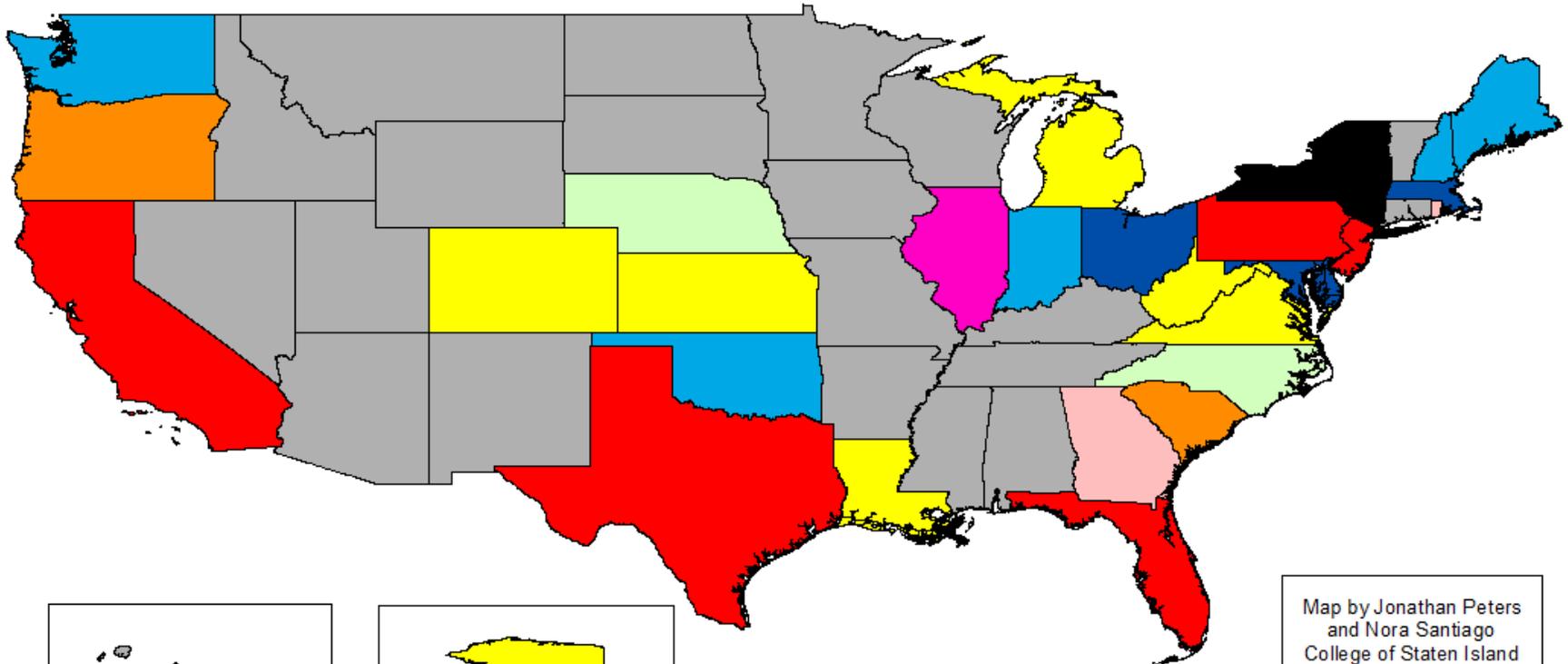
Alaska



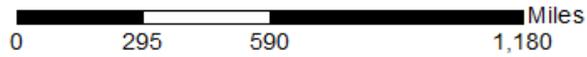
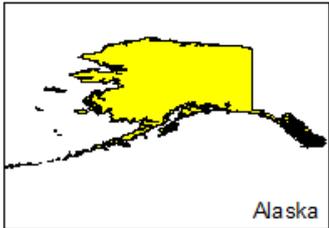
Legend

State and Local Tolls		
0 - 860	15,901 - 27,119	229,268 - 450,378
861 - 3,469	27,120 - 34,554	450,379 - 711,611
3,470 - 15,900	34,555 - 112,944	711,612 - 1,987,071
	112,945 - 229,267	

2010 Disposition of Highway-User Revenues By State and Local Governments State and Local Tolls



Map by Jonathan Peters
and Nora Santiago
College of Staten Island
July 15th, 2014



Legend		
STFIPS.F5	Revenue Range (Millions)	Color
0 - 860	15,901 - 27,119	Dark Blue
861 - 3,469	27,120 - 34,554	Magenta
3,470 - 15,900	34,555 - 112,944	Red
	112,945 - 229,267	Light Blue
	229,268 - 450,378	Dark Blue
	450,379 - 711,611	Black
	711,612 - 1,987,071	Red
	1,987,072 - 3,143,141	Black

Tolling Costs and Burden

- Wide variation in road pricing by region
- Appears to be strongly linked to proximity to toll road facilities.
- Linked to auto ownership
- Heavy in Northeast
- Appear to have heavy impacts on certain households and areas.
- NY Metro is funny – very low Vehicle Miles Traveled per capita.

Revenue Source	US Per Capita	NYS Per Capita
•Federal Fuel Taxes –	\$123.30	\$73.78
•State & Local Fuel & Other -	\$208.23	\$115.93
•Tolls –	\$23.45	\$105.39
•Total	\$354.98	\$295.10

**Vehicle Miles, Population, Fuel Consumption and Fuel Tax
Data By State - 2007**

State	Population	Annual VMT Per Capita	Per Capita Fuel Consumed	Per Capita Federal Fuel Tax
Wyoming	523,252	17,900	881.75 \$	162.24
Mississippi	2,921,030	14,836	730.85 \$	134.48
New Mexico	1,964,402	13,668	673.31 \$	123.89
Alabama	4,626,595	13,273	653.86 \$	120.31
Oklahoma	3,608,123	13,185	649.49 \$	119.51
Vermont	620,748	12,395	610.58 \$	112.35
North Dakota	637,904	12,297	605.74 \$	111.46
Montana	956,624	11,820	582.25 \$	107.13
Georgia	9,523,297	11,817	582.14 \$	107.11
Missouri	5,878,399	11,764	579.49 \$	106.63
Arkansas	2,830,557	11,719	577.29 \$	106.22
South Carolina	4,404,914	11,603	571.56 \$	105.17
Tennessee	6,149,116	11,575	570.22 \$	104.92
North Carolina	9,041,594	11,458	564.43 \$	103.86
Maine	1,315,398	11,430	563.05 \$	103.60
West Virginia	1,809,836	11,362	559.72 \$	102.99
Kentucky	4,236,308	11,345	558.89 \$	102.84
Florida	18,199,526	11,326	557.91 \$	102.66
South Dakota	795,689	11,317	557.50 \$	102.58
Indiana 2/	6,335,862	11,281	555.74 \$	102.26
Minnesota 3/	5,182,360	11,044	544.03 \$	100.10
Delaware	861,953	11,002	541.96 \$	99.72
Nebraska	1,769,473	10,986	541.17 \$	99.58
Kansas	2,777,382	10,819	532.95 \$	98.06
Virginia	7,698,775	10,661	525.17 \$	96.63
Wisconsin	5,598,893	10,626	523.44 \$	96.31
Idaho	1,496,145	10,548	519.63 \$	95.61
Iowa	2,983,360	10,476	516.05 \$	94.95
Michigan	10,049,790	10,410	512.79 \$	94.35
Louisiana	4,373,310	10,376	511.12 \$	94.05
New Hampshire	1,312,256	10,256	505.24 \$	92.96
Texas	23,843,432	10,210	502.96 \$	92.54
Colorado	4,842,770	10,059	495.51 \$	91.17
USA	301,290,332	10,056	495.38 \$	91.15
Maryland	5,618,899	10,056	495.36 \$	91.15
Utah	2,668,925	10,053	495.25 \$	91.13
Arizona	6,353,421	9,910	488.18 \$	89.83
Ohio	11,477,641	9,639	474.82 \$	87.37
Oregon	3,735,549	9,303	458.25 \$	84.32
Connecticut	3,489,868	9,185	452.44 \$	83.25
California	36,377,534	9,025	444.59 \$	81.80
Washington	6,449,511	8,828	434.90 \$	80.02
New Jersey	8,653,126	8,801	433.52 \$	79.77
Pennsylvania	12,419,930	8,752	431.13 \$	79.33
Nevada	2,554,344	8,670	427.09 \$	78.58
Massachusetts	6,467,915	8,514	419.43 \$	77.18
Illinois	12,825,809	8,380	412.82 \$	75.96
Rhode Island	1,053,136	8,200	403.95 \$	74.33
Hawaii	1,277,356	8,099	398.95 \$	73.41
Alaska	681,111	7,566	372.69 \$	68.57
New York	19,429,316	7,038	346.68 \$	63.79
Dist. of Columbia	587,868	6,139	302.42 \$	55.65

Tolls in NY Metro

- New York Metro leads the Region and the Nation in road pricing dollars.
- High Number of Toll Bridges and Tunnels
- High Number of Toll Roads
- High Prices on Toll Facilities
- Major Price Increases in the last 10 years.
- So, we were interested to see how these costs were reflected in the CPI – and that brought us to the CES

So, Just How Much Road Pricing is going on in the U.S.?

Measuring Outcome using
Various Data Sources

Top Down Analysis

- One way to examine tolls is from a top down perspective based on the financial reporting of the toll agencies revenue and transactions.
- Multiple agencies
- Many different sizes
- Variation in reporting methods
- But, a valuable source of information
- Total U.S. Tolls estimated at 12 Billion Dollars a year by the Federal Highway Administration

Bottom Up Analysis

- An alternative way is by summing data of individual users (households) and aggregating by geographic area.
- **Could be based on user surveys (CES)**
- Could be based on travel surveys (NHTS)
- Could be based on agency surveys
- Could be based on electronic toll bill analysis
- Could be based on transaction level data

National Household Travel Survey

– No Spending Amount

ExtendedInterview.pdf - Adobe Reader

File Edit View Window Help

28 / 42 164%

Tools Sign Comment

NEWBORO 4 GO TO BOX BEFORE Gb

OTHER 5 GO TO BOX BEFORE Gb

REFUSED-7 GO TO BOX BEFORE Gb

DON'T KNOW-8 GO TO BOX BEFORE Gb

Gb. Was any part of this trip made on an Interstate or turnpike?

INTSTATE

YES 1

NO 2 GO TO BOX AFTER Gc

REFUSED-7 GO TO BOX AFTER Gc

DON'T KNOW-8 GO TO BOX AFTER Gc

Gc. Did {you/SUBJECT} pay a toll while traveling on this Interstate?

PAYTOLL

YES 1

NO 2

REFUSED-7

DON'T KNOW-8

G35. How did {you/SUBJECT} get to the {bus/train/subway/street car/pier/terminal}? {Anything else?}

(TRACC1-5)

[CODE ALL THAT APPLY.]

toll

9:41 PM 7/15/2014

Commuting in America 2013

The National Report on Commuting Patterns and Trends

Brief 8. Consumer Spending on Transportation



AMERICAN ASSOCIATION OF
STATE HIGHWAY AND
TRANSPORTATION OFFICIALS
AASHTO
THE VOICE OF TRANSPORTATION



OCTOBER 2013

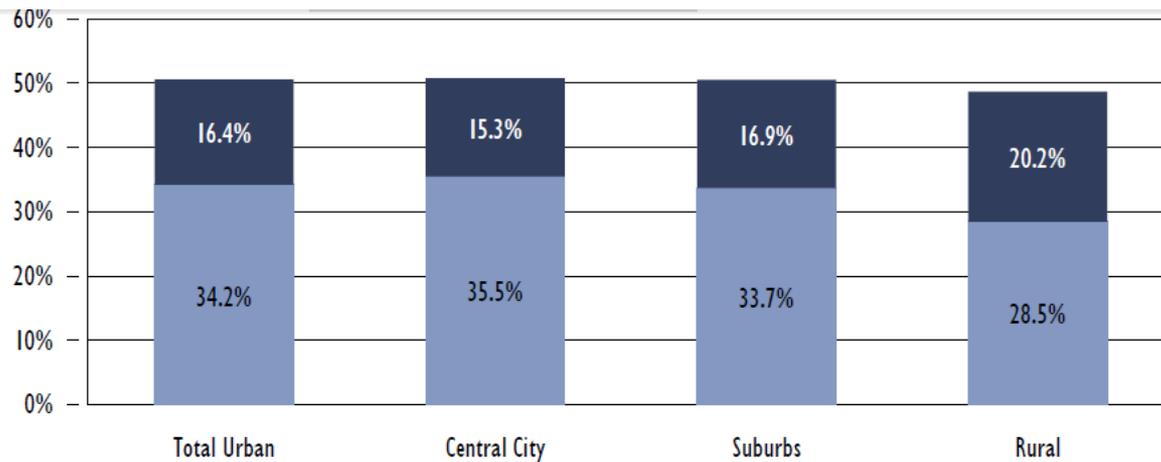


Figure 8-15. Shares of Housing plus Transportation Spending by Area Type

Source: Consumer Expenditure Survey, 2011

Spending on Other Modes

The Consumer Expenditure Survey collects some other travel-related information, including expenditures for parking fees and tolls, but these are limited in coverage and produce data of extremely limited value. It is possible to shed some light on spending for public transportation. Figure 8-16 shows intracity mass transit spending per year by population age. In addition, data indicate out-of-town spending on transit averages \$12 per year per household.



HOUSING AND TRANSPORTATION AFFORDABILITY INITIATIVE

UNDERSTANDING THE COMBINED COST OF HOUSING AND TRANSPORTATION



The Impact of Transportation on Affordability: An Analysis of Auto Cost White Paper

December 2012

Prepared for:

**U.S. Department of Transportation
Office of the Secretary**

and

**U.S. Department of Housing
and Urban Development (HUD)
Office of Sustainable Housing
and Communities**

Commissioned by:

**Manhattan Strategy Group
8120 Woodmont Ave #850
Bethesda, MD 20814**



I. Expenditures on car ownership

Categorizing Expenditures

In this report, expenditures related to the purchase and operation of cars and trucks are divided into four categories. First, there is the cost of purchasing the vehicle from a dealer or a prior owner (“purchase costs”). Second, there is the cost of continuing to own a purchased vehicle even if it is not driven (“ownership costs”). Third, there is the cost of keeping the vehicle in drivable shape, e.g. maintenance and repairs (“drivability costs”). Fourth, there is the cost of the fuel used to drive the vehicle (“driving costs”). This report treats each of these costs separately and explains how expenditures related to each are coded in the Consumer Expenditure Survey and how they are dealt with in the tabulations presented here.

Purchasing Costs

The cost of purchasing a vehicle is measured as the price paid minus the value of any vehicles sold through a trade-in or other means. In other words, if a consumer purchased a car with a price of \$20,000 and traded in a vehicle worth \$7,500, then the purchase cost would be \$12,500 representing the consumer’s net expenditures for the new car. Car purchases are measured in this manner whether the car is new or used when purchased. In addition, financing costs, lease and rental costs are also included in purchasing costs (Appendix A includes further details on categorization of expenditures).

Ownership Costs

The cost of owning a vehicle includes those costs that are incurred even if it sits in a driveway. This measure includes car insurance, property tax payments, registration, audio equipment and video equipment. Financing payments and lease payments are not included in this measure because those are part of the purchasing costs.

Drivability Costs

The cost of keeping a car in drivable condition includes repair costs, motor oil, and similar expenses. Inspection and licensing are also included in this category.

Driving (“Fuel”) Costs

The cost of driving a vehicle is the cost of fuel to operate the vehicle. This measure includes three fuel expenditure categories measured in the CEX – spending on gas, on diesel, and on gas on out of town trips. Spending on tolls is not included in this measure because toll expenses vary across geography. Appendix B provides more information about toll costs in the data.

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Transportation Cost and Benefit Analysis II – Vehicle Costs
 Victoria Transport Policy Institute (www.vtpi.org)

Table 5.1.5-4 American Automobile Association 2008 Vehicle Cost Estimates⁷

	Small Sedan	Medium Sedan	Large Sedan	SUV	Van
Gas & oil	8.21¢	10.54¢	11.51¢	14.39	12.16
Maintenance	4.26¢	4.51¢	4.92¢	4.94	4.87
Tires	0.61¢	0.87¢	0.82¢	0.95	0.74
<i>Operating costs/mile</i>	<i>13.08¢</i>	<i>15.92¢</i>	<i>17.25¢</i>	<i>20.28¢</i>	<i>17.77¢</i>
Insurance	\$948	\$957	\$1,022	\$948	\$897
License & registration	\$419	\$572	\$711	\$727	\$602
Depreciation	\$2,430	\$3,401	\$4,551	\$4,619	\$3,818
Financing	\$553	\$786	\$998	\$1,023	\$832
<i>Ownership costs/year</i>	<i>\$4,350</i>	<i>\$5,716</i>	<i>\$7,282</i>	<i>\$7,317</i>	<i>\$6,149</i>
<i>Total for 12,500 annual miles</i>	\$5,985	\$7,706	\$9,438	\$9,852	\$8,370
<i>Average cost per mile</i>	\$0.35	\$0.46	\$0.58	\$0.59	\$0.49

This table summarizes vehicle cost estimates published by the American Automobile Association. It represents typical costs during the first six years of vehicle operation, and so tends to overestimate depreciation and financing costs and underestimate repair costs. It also ignores incidental costs, such as user parking fees and road tolls.

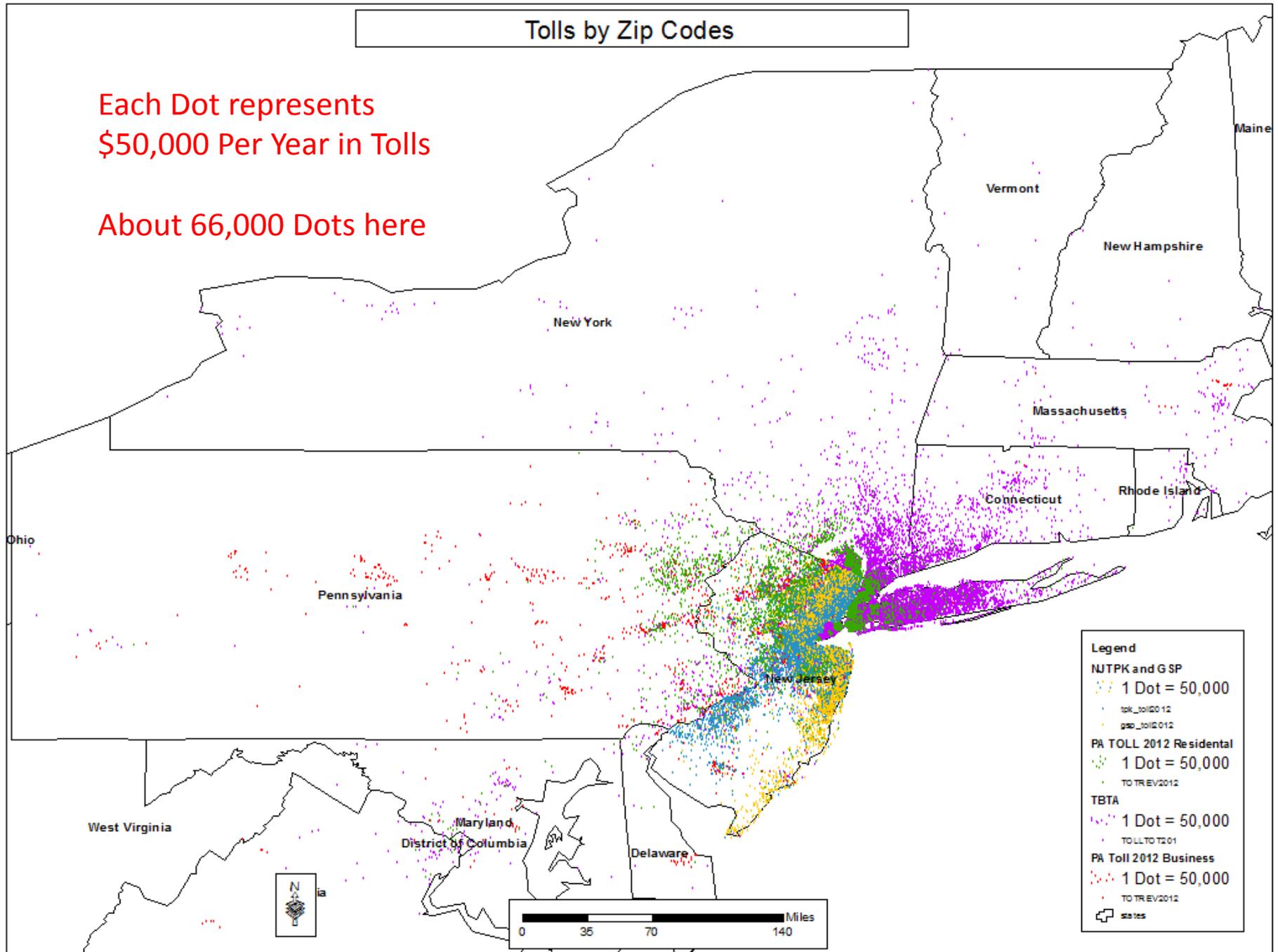
Tolls are Incidental Costs? Detailed Data from Agencies

NY Metro Toll Agency Data
Surveys
&
Electronic Tolls Tags

Tolls by Zip Codes

Each Dot represents
\$50,000 Per Year in Tolls

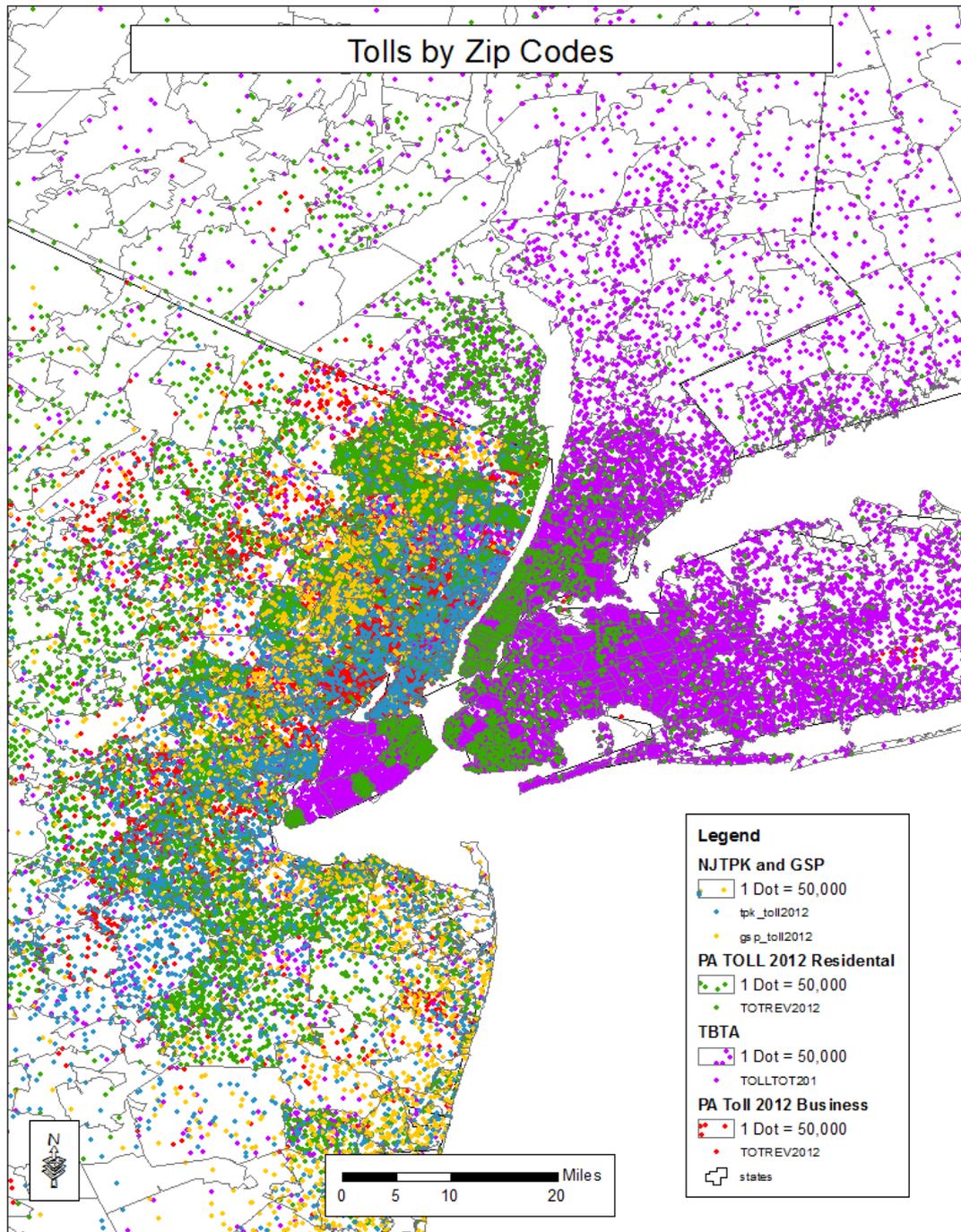
About 66,000 Dots here



Tolls by Zip Codes

Each Dot
Represents
\$50,000 Per
Year in Tolls
from 4 NY/NJ
Toll Agencies

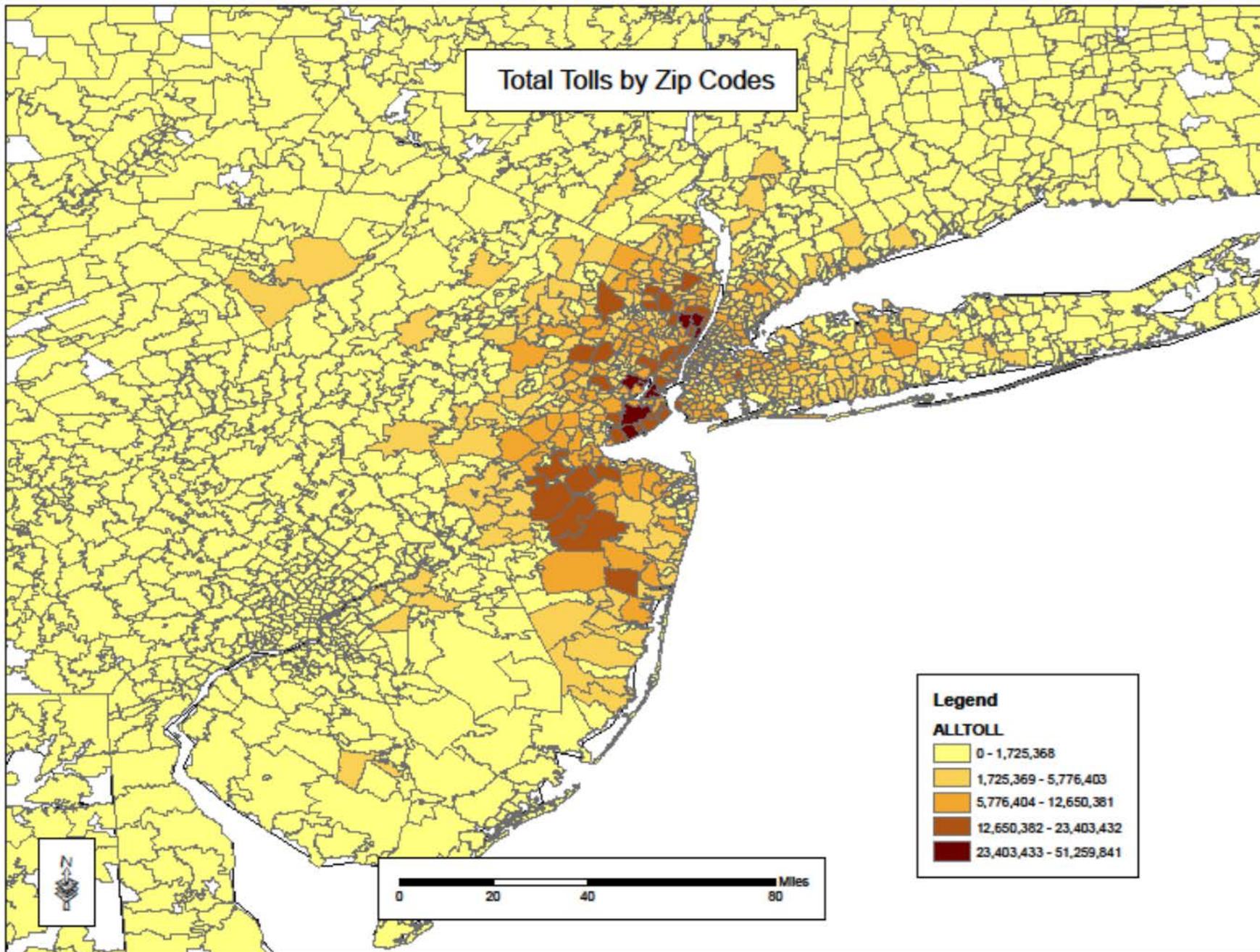
About 57,000
Dots Here



Top Toll Paying Zip Codes – 4 NY/NJ Toll Agencies (2010)

Zipcode	latitude	longitude	State	City	County	PC Toll Ann.	Total Toll 4 Agenc	Population 2000
07666	40.89148	-74.011928	NJ	TEANECK	BERGEN	\$ 1,305.65	\$ 51,259,841	39,260
07024	40.850312	-73.974455	NJ	FORT LEE	BERGEN	\$ 1,409.82	\$ 49,993,663	35,461
10314	40.603915	-74.147218	NY	STATEN ISLAND	RICHMOND	\$ 503.53	\$ 42,967,044	85,332
07002	40.666399	-74.119169	NJ	BAYONNE	HUDSON	\$ 597.31	\$ 36,938,558	61,842
07114	40.708246	-74.189105	NJ	NEWARK	ESSEX	\$ 2,874.43	\$ 34,038,952	11,842
10312	40.545745	-74.179165	NY	STATEN ISLAND	RICHMOND	\$ 560.90	\$ 32,915,006	58,682
07631	40.894251	-73.977182	NJ	ENGLEWOOD	BERGEN	\$ 1,118.04	\$ 29,296,023	26,203
07726	40.306274	-74.330613	NJ	ENGLISHTOWN	MONMOUTH	\$ 579.68	\$ 23,403,432	40,373
10306	40.568183	-74.118386	NY	STATEN ISLAND	RICHMOND	\$ 414.69	\$ 23,043,055	55,567
07670	40.921596	-73.965906	NJ	TENAFLY	BERGEN	\$ 1,666.52	\$ 23,007,981	13,806
07305	40.702007	-74.088998	NJ	JERSEY CITY	HUDSON	\$ 393.03	\$ 23,005,222	58,533
07047	40.793019	-74.017715	NJ	NORTH BERGEN	HUDSON	\$ 392.54	\$ 22,848,223	58,206
07032	40.76466	-74.147108	NJ	KEARNY	HUDSON	\$ 517.05	\$ 20,947,289	40,513
07601	40.888191	-74.050301	NJ	HACKENSACK	BERGEN	\$ 489.86	\$ 20,905,848	42,677
07410	40.934297	-74.1166	NJ	FAIR LAWN	BERGEN	\$ 656.29	\$ 20,763,118	31,637
07621	40.923837	-73.998918	NJ	BERGENFIELD	BERGEN	\$ 788.54	\$ 20,710,322	26,264
07652	40.947683	-74.06724	NJ	PARAMUS	BERGEN	\$ 752.70	\$ 19,372,270	25,737
08816	40.428395	-74.406381	NJ	EAST BRUNSWICK	MIDDLESEX	\$ 421.56	\$ 19,206,367	45,560
10309	40.535179	-74.211572	NY	STATEN ISLAND	RICHMOND	\$ 709.40	\$ 19,106,283	26,933
08831	40.342475	-74.433568	NJ	MONROE TOWNSHIP	MIDDLESEX	\$ 532.90	\$ 18,319,411	34,377
07008	40.582278	-74.231345	NJ	CARTERET	MIDDLESEX	\$ 869.45	\$ 18,005,468	20,709
11209	40.625106	-74.030304	NY	BROOKLYN	KINGS	\$ 250.74	\$ 17,638,593	70,346
08857	40.398045	-74.323553	NJ	OLD BRIDGE	MIDDLESEX	\$ 489.39	\$ 17,624,791	36,014
07094	40.79101	-74.063416	NJ	SECAUCUS	HUDSON	\$ 1,104.80	\$ 17,498,956	15,839
07675	41.001696	-74.032586	NJ	WESTWOOD	BERGEN	\$ 430.55	\$ 17,485,815	40,613
07470	40.947112	-74.246565	NJ	WAYNE	PASSAIC	\$ 306.99	\$ 16,612,850	54,115
07010	40.822168	-73.987982	NJ	CLIFFSIDE PARK	BERGEN	\$ 720.81	\$ 16,583,722	23,007
07030	40.7445	-74.032863	NJ	HOBOKEN	HUDSON	\$ 422.03	\$ 16,319,514	38,669
10305	40.597296	-74.076795	NY	STATEN ISLAND	RICHMOND	\$ 410.40	\$ 15,802,621	38,505
07747	40.410876	-74.237955	NJ	MATAWAN	MONMOUTH	\$ 504.30	\$ 14,729,664	29,208
08701	40.085043	-74.204199	NJ	LAKEWOOD	OCEAN	\$ 241.61	\$ 14,590,368	60,387
07450	40.982023	-74.113134	NJ	RIDGEWOOD	BERGEN	\$ 580.08	\$ 14,464,971	24,936
07039	40.789633	-74.3202	NJ	LIVINGSTON	ESSEX	\$ 513.96	\$ 14,011,487	27,262
07083	40.695184	-74.267653	NJ	UNION	UNION	\$ 273.48	\$ 13,931,689	50,942
07632	40.882043	-73.954449	NJ	ENGLEWOOD CLIFFS	BERGEN	\$ 2,585.46	\$ 13,759,836	5,322
07052	40.785926	-74.256765	NJ	WEST ORANGE	ESSEX	\$ 302.95	\$ 13,638,017	45,017
07728	40.245776	-74.276822	NJ	FREEHOLD	MONMOUTH	\$ 269.11	\$ 13,606,315	50,561
07650	40.846238	-73.995436	NJ	PALISADES PARK	BERGEN	\$ 792.48	\$ 13,530,029	17,073
11375	40.722854	-73.847306	NY	FOREST HILLS	QUEENS	\$ 190.23	\$ 13,443,820	70,673

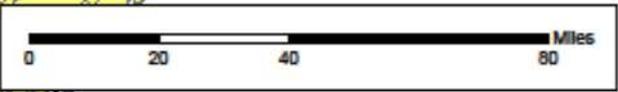
Total Tolls by Zip Codes



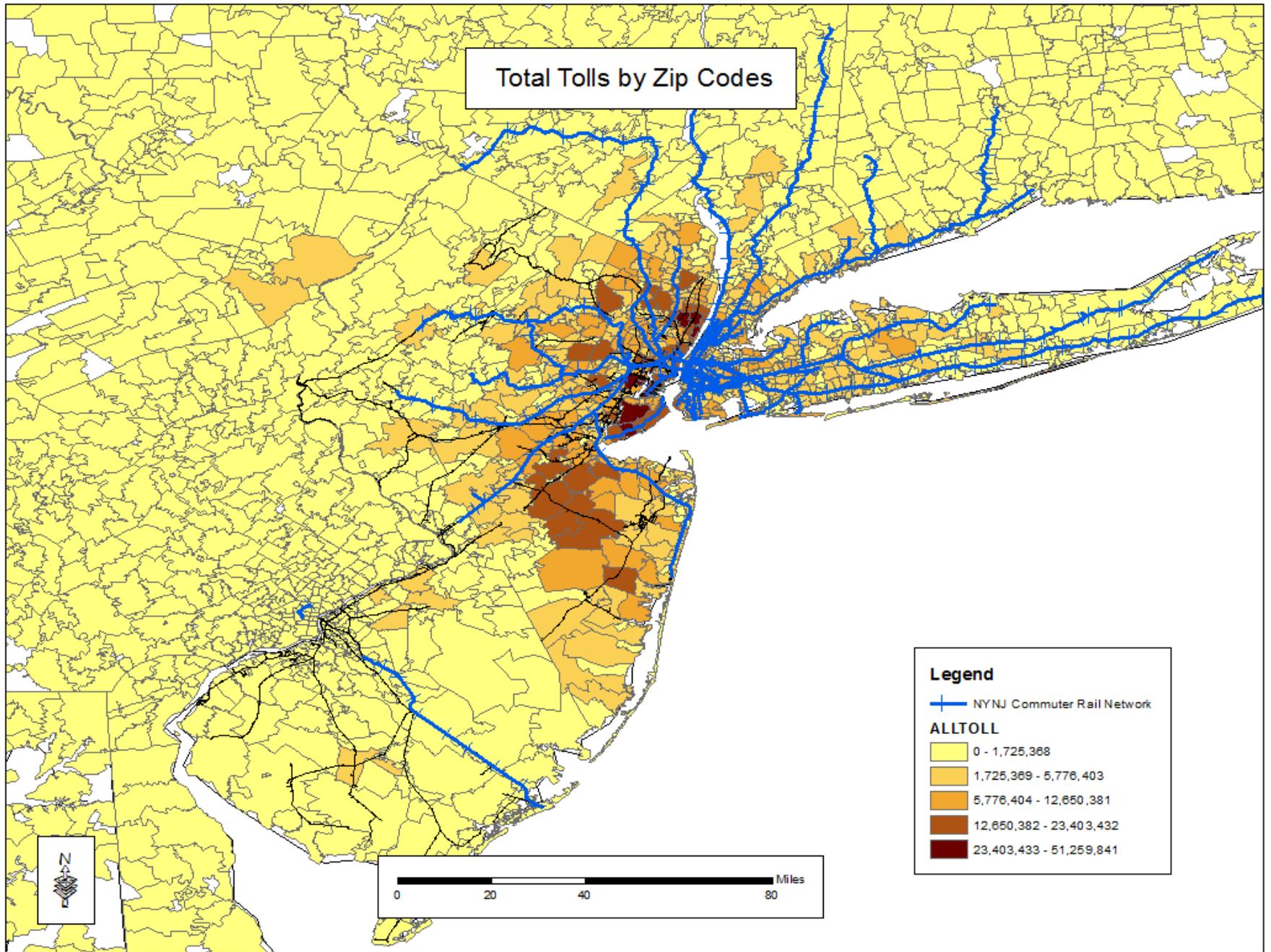
Legend

ALLTOLL

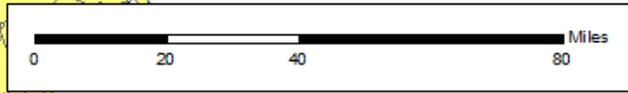
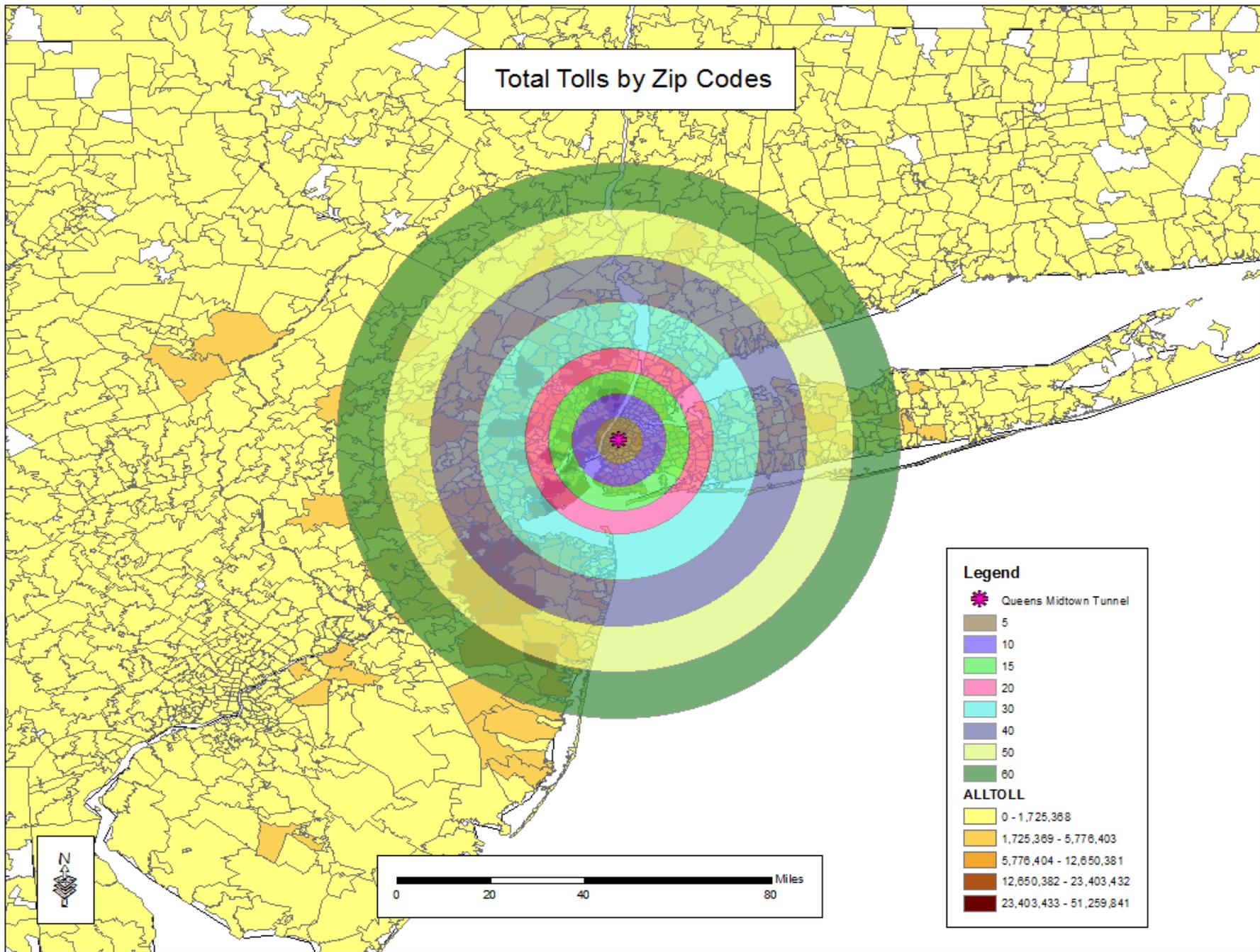
- 0 - 1,725,368
- 1,725,369 - 5,776,403
- 5,776,404 - 12,650,381
- 12,650,382 - 23,403,432
- 23,403,433 - 51,259,841



Total Tolls by Zip Codes



Total Tolls by Zip Codes



New York Metro Tolls - Four Agency Totals by Distance from NYC CBD - 2010 Estimate

Distance	Area	Water	Net Area	Pop Per SQMi	Tolls PC	Tolls Per SQM
5.00	78.54	-	78.54	28,616	\$ 97.83	\$ 2,799,558.63
10.00	314.16	-	314.16	20,145	\$ 118.89	\$ 2,394,971.72
15.00	706.86	70.69	636.17	14,171	\$ 158.98	\$ 2,252,840.63
20.00	1,256.64	251.33	1,005.31	10,993	\$ 172.43	\$ 1,895,464.79
40.00	5,026.55	1,005.31	4,021.24	3,849	\$ 184.63	\$ 710,626.52
40+	3,114,858	0	3,114,858.14	94	\$ 30.49	\$ 2,870.89
All US	3,119,885	0	3,119,884.69	99	\$ 38.22	\$ 3,782.19

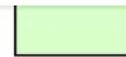
NYC CBD	Donut Hole	Toll Dollars			Population Per	Tolls PC
Distance	Area (SQ Miles)	Per Band	% US Population	% Tolls	Band	Per Band
5.00	78.54	219,876,821	0.7%	1.86%	2,247,495	\$ 97.83
10.00	235.62	532,525,734	1.3%	4.51%	4,081,157	\$ 130.48
15.00	322.01	680,792,731	0.9%	5.77%	2,686,537	\$ 253.41
20.00	369.14	472,333,762	0.7%	4.00%	2,035,846	\$ 232.01
40.00	3,015.93	952,069,745	1.4%	8.07%	4,426,508	\$ 215.08
40+	3,110,836.90	8,942,401,207	95.0%	75.78%	293,270,173	\$ 30.49
All US	3,114,858	11,800,000,000	100.0%	100.00%	308,747,716	
						PC Burden
NY Metro - 40 Mile Ring			5.0%	24.22%	15,477,543	\$ 184.63
Outside NY Metro 40 Mile Ring			95.0%	75.78%	293,270,173	\$ 30.49

Examining Tolling

Data Should be in PPI or CPI

CES Data from PUMS

Data on Transportation Series

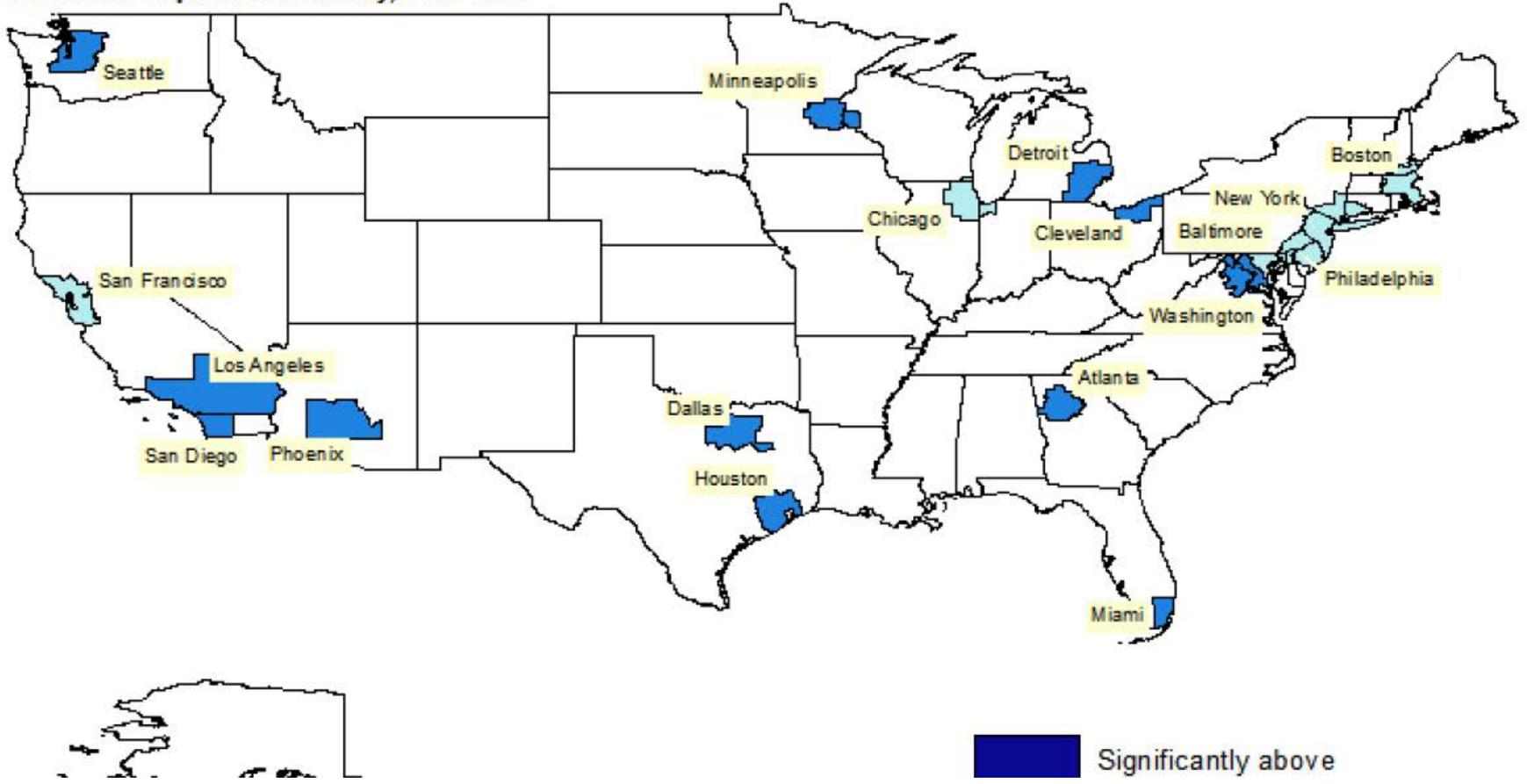


Significantly below

Source: U.S. Bureau of Labor Statistics

Note: Statistical significance testing at the 95-percent confidence interval.

Chart 3. Expenditure shares spent on transportation in 18 metropolitan statistical areas compared to the U.S. average, Consumer Expenditure Survey, 2010-2011



Significantly above

Table 3. Percent share of average annual expenditures for housing, transportation, and food, United States and 18 metropolitan areas, Consumer Expenditure Survey, 2010-2011

Area	Housing	Transportation	Food
United States	34.1	16.3	12.9
Atlanta	37.1*	16.1	11.7*
Baltimore	37.4*	11.9*	12.5
Boston	32.5*	14.1*	12.5
Cleveland	35.6*	14.5*	12.4
Chicago	32.0*	17.1	12.4
Dallas	33.4	17.1	12.8
Detroit	32.2*	17.4	12.5
Houston	33.5	16.7	12.5
Los Angeles	37.6*	16.2	13.2
Miami	41.5*	15.7	12.9
Minneapolis	32.3*	16.2	12.4
New York	39.8*	13.5*	12.7
Philadelphia	38.9*	14.4*	11.8*
Phoenix	33.5	16.9	13.0
San Diego	40.8*	14.9	11.1*
San Francisco	37.7*	13.1*	11.5*
Seattle	34.9	15.4	11.3*
Washington	35.3	15.0	11.5*

*Statistically significant difference from the U.S. average at the 95-percent confidence level.

Average annual expenditures and characteristics of all consumer units, Consumer Expenditure Survey, 2006-2012								\$
Item	2006	2007	2008	2009	2010	2011	2012	2012 Total Expend.
Average annual expenditures	\$48,400	\$49,638	\$50,486	\$49,067	\$48,109	\$49,705	\$51,442	\$6,400,207,872,000
Food	6,111	6,133	6,443	6,372	6,129	6,458	6,599	\$821,021,184,000
Food at home	3,417	3,465	3,744	3,753	3,624	3,838	3,921	\$487,835,136,000
Cereals and bakery products	446	460	507	506	502	531	538	\$66,935,808,000
Cereals and cereal products	143	143	170	173	165	175	182	\$22,643,712,000
Bakery products	304	317	337	334	337	356	356	\$44,292,096,000
Meats, poultry, fish, and eggs	797	777	846	841	784	832	852	\$106,002,432,000
Beef	236	216	239	226	217	223	226	\$28,118,016,000
Pork	157	150	163	168	149	162	166	\$20,653,056,000
Other meats	105	104	106	114	117	123	122	\$15,178,752,000
Poultry	141	142	159	154	138	154	159	\$19,782,144,000
Fish and seafood	122	122	128	135	117	121	126	\$15,676,416,000
Eggs	37	43	51	44	46	50	53	\$6,594,048,000
Dairy products	368	387	430	406	380	407	419	\$52,130,304,000
Fresh milk and cream	140	154	168	144	141	150	152	\$18,911,232,000
Other dairy products	228	234	261	262	240	257	267	\$33,219,072,000
Fruits and vegetables	592	600	657	656	679	715	731	\$90,948,096,000
Fresh fruits	195	202	222	220	232	247	261	\$32,472,576,000
Fresh vegetables	193	190	212	209	210	224	226	\$28,118,016,000
Processed fruits	109	112	116	118	113	116	114	\$14,183,424,000
Processed vegetables	95	96	107	110	124	128	130	\$16,174,080,000
Other food at home	1,212	1,241	1,305	1,343	1,278	1,353	1,380	\$171,694,080,000
Sugar and other sweets	125	124	129	141	132	144	147	\$18,289,152,000
Fats and oils	86	91	104	102	103	110	114	\$14,183,424,000
Miscellaneous foods	627	650	680	715	667	690	699	\$86,966,784,000
Nonalcoholic beverages	332	333	342	337	333	361	370	\$46,033,920,000
Food prepared by consumer unit on out-of-town trips	43	43	49	49	43	48	50	\$6,220,800,000
Food away from home	2,694	2,668	2,698	2,619	2,505	2,620	2,678	\$333,186,048,000

Consumer Expenditure Survey

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Section 12 Part C - Vehicle Operating Expenses - Other Vehicle Operating Expenses

Section 12, Part C deals with other vehicle operating expenses, including a monthly average expenditure on gasoline, purchases of oil and other fluids, parking fees, towing charges, docking or landing fees, and expenses for auto repair service policies and clubs.

Since the first of reference month not including this month --

what has been your your/your household's AVERAGE MONTHLY expense for gasoline and other fuels for all vehicles? [\[enter value\]](#)

For definitions [Information Booklet](#) >>

Was any of this expense for diesel fuel?

[1. Yes](#)

[2. No](#)

How much? [\[enter value\]](#) _____

What percentage of the AVERAGE MONTHLY COST was counted as a business expense? [\[enter value\]](#) _____

Since the first of the reference month not including this month --

have you or any member of your household purchased any oil for operating vehicles?

[1. Yes](#)

[2. No](#)

What was the total cost? [\[enter value\]](#) _____

Since the first of the reference month not including this month --

have you or any member of your household purchased any antifreeze, brake fluid, transmission fluid, windshield wiper fluid, or additives, except if purchased with a tune-up?

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GEMINI REDESIGN
PROJECT

METHODOLOGY

METHODS RESEARCH
PAPERSHow much? [\[enter value\]](#) _____What percentage of the AVERAGE MONTHLY COST was counted as a business expense? [\[enter value\]](#) _____

Since the first of the reference month not including this month --
have you or any member of your household purchased any oil for operating vehicles?

[1. Yes](#)[2. No](#)What was the total cost? [\[enter value\]](#) _____

Since the first of the reference month not including this month --
have you or any member of your household purchased any antifreeze, brake fluid, transmission fluid, windshield wiper fluid, or additives,
except if purchased with a tune-up?

[1. Yes](#)[2. No](#)What was the total cost of these purchases? [\[enter value\]](#) _____

Since the first of the reference month not including this month --
Had any expenses for parking, such as parking garages, parking lot fees, or parking meters? Do not include expenses that are part of your
property ownership or rental costs, a business expense or expenses that will be totally reimbursed.

[1. Yes](#)[2. No](#)How much was paid, not including any payments made this month? [\[enter value\]](#) _____

Since the first of the reference month not including this month, have you or any member of your household had any expenses for -

Local tolls or electronic toll passes?

[1. Yes](#)[2. No](#)How much was paid, not including any payments made this month? [\[enter value\]](#) _____

Since the first of the reference month not including this month, have you or any member of your household had expenses for -

Docking and landing fees for boats and planes?



-
- 520310 Driver's license
 - 520410 Vehicle inspection
 - 520511 Auto rental, excl. trips
 - 520512 Auto rental on out-of-town trips
 - 520521 Truck or van rental, excl. trips
 - 520522 Truck or van rental on out-of-town trips
 - 520531 Parking fees at garages, meters, and lots excl. fees that are costs of property ownership
 - 520532 Parking fees on out-of-town trips
 - N052 520541 Tolls or electronic toll passes
 - 520542 Tolls on out-of-town trips
 - 520550 Towing charges (excl. contracted or pre-paid)
 - N052 520560 Global positioning services
 - 520901 Docking and landing fees for boats and planes
 - 520902 Motorcycle, motor scooter, or moped rental
 - 520903 Aircraft rental
 - 520904 Rental of non camper-type trailer, such as for boat or cycle
 - 520905 Same as 520902 – out-of-town trips
 - 520906 Aircraft rental on out-of-town trips
 - 520907 Rental of boat or non camper-type trailer, such as for boat or cycle on out-of-town trips
 - 530110 Airline fares on out-of-town trips
 - 530210 Intercity bus fares on out-of-town trips
 - 530311 Intracity mass transit fares

Expenditure category	Components of category (where applicable)
New cars	
New trucks and other non-recreational vehicles	New trucks; New motorcycles; New aircraft
Cars and trucks, used	
Used cars	
Used trucks and other non-recreational vehicles	Used trucks; Used motorcycles; Used aircraft
Gasoline and motor oil	
Other vehicle expenses	
Vehicle finance charges	
Maintenance and repairs	
Vehicle insurance	
Vehicle rental, leases, licenses, and other charges	
Leased and rented vehicles	
Miscellaneous vehicle expenses	Vehicle registration state; Vehicle registration local; Drivers' license; Vehicle inspection; Parking fees; Tolls or electronic toll passes; Tolls on out-of-town trips; Towing charges; Global positioning services; Automobile service clubs
Public transportation	
Airline fares	
Other public transportation expenses	Intracity mass transit fares; Local trans on out-of-town trips; Taxi fares and limousine services on trips; Taxi fares and limousine services; Intercity train fares; Ship fares; School bus
Healthcare	
Health insurance	Commercial health insurance; Blue Cross, Blue Shield; Health maintenance organization (not BCBS)

SUN

MON

TUE

WED

THU

FRI

SAT

Day 5

4. All Other Products, Services, and Expenses

Examples:

cigarettes
gasoline
utility gas bill

prescription drugs
cordless telephone
dry clean (curtains)

movie tickets
DVD rental
bus fare

phone bill
car insurance
brake work

hand soap
dish soap
power tools

paper towels
bath towel
rent

textbooks
cook book
airline fares

computer cables
cable TV bill
color television

Please unfold the RIGHT FLAP to see Frequently Asked Questions



	What did you buy or pay for? <i>(see examples above and on the flap)</i>	Total Cost without tax	Mark (X) if purchased for someone not on your list
401			
402			
403			
404			
405			
406			
407			
408			
409			
410			
411			
412			
413			
414			
415			

Source Selection: Selecting and Evaluating America's Expenditures October 2010

Barry Steinberg* Brett Creech Mary Lynn Schmidt Patrick Falwell

Any opinions expressed in this paper are those of the authors, and do not constitute policy of the Bureau of Labor Statistics.

Abstract

The Consumer Expenditure Survey data are obtained from one of two distinct instruments, the Diary Survey and the Interview Survey. The Diary Survey is designed to capture ALL expenses incurred over a two-week period while the Interview Survey generally captures items that can be expected to be recalled for a period of 3-months or longer. The decision as to which survey to use for each Universal Classification Code (UCC) is crucial to the ongoing estimation of expenditures. Over time, the survey questions can change as do the way people respond so it is very important to adapt by identifying which survey provides the best data for all overlapping UCC's. This paper presents a multi-step quantitative method for comparing expenditure data between both surveys so that the best estimate of the mean annual expenditures per household can be obtained.

Key words: Source, Universal Classification Code (UCC)

I. Background

The Consumer Expenditure Survey (CE) is a nationwide household survey

every two years. Of the remaining four UCC's, it was decided to keep the Interview Survey as the source due to concerns about the quality and consistency of the Diary Survey estimates.

The two UCC's did change source from the Diary Survey to the Interview Survey are as follows:

480214 Vehicle Audio Equipment *failed the expenditure count criterion*

520541 Tolls or Electronic Toll Passes *Z-Score strongly favored use of the Interview Survey*

IX. Summary

Source selection is the process of choosing the better survey to use in CE's official published expenditure estimates. It is a multi-step approach performed every two years for every overlap UCC by comparing expenditure data from both the Interview and Diary surveys using a counts criteria and weighted Z-Score approach to determine the best source. The program uses the previous three years of data when available, giving more weight to the most recent years. For new UCC's, only two years of data are used. The data are adjusted for outliers in both the Interview and Diary Surveys. A number of criteria are tested to determine which source to select. The first criterion assesses the number of unweighted consumer units making an expenditure for each UCC in each survey, and may eliminate a source where an insufficient number of CU's report. The next criterion chooses the source that provides the larger overall expenditure per UCC. The means of reported expenditures, weighted by year, are compared from each survey

	420500 Auto Repair Service Policy
104. Motor vehicle insurance	500110 Vehicle Insurance
105. Motor vehicle fees	520111 Vehicle Registration State 520112 Vehicle Registration Local 520310 Drivers License 520410 Vehicle Inspection 520531 Prkng Fee In Hme City Excl Rsdnc 520532 Parking Fees, Out-Of-Town Trip 520541 Tolls Or Electronic Toll Passes 520542 Tolls On Out-Of-Town Trips

¹¹ The Requirements Team recommends that "Motor vehicle parts and equipment" and "Motor vehicle maintenance and repair" be consolidated into one category.

Appendix A. Expenditure Item Categories Reconciling OPLC Data Requirements

105. Motor vehicle fees – cont.	520550 Towing Charges 520560 Global Positioning Services 620113 Automobile Service Clubs
106. Personal property taxes	950022 Personal Property Taxes
107. Airline fares	530110 Airline Fares

Expense	2006	2007	2008	2009	2010	2011	2012	Total Expend. 2012
Transportation	8,508	8,758	8,604	7,658	7,677	8,293	8,998	\$1,119,495,168,000
Vehicle purchases (net outlay)	3,421	3,244	2,755	2,657	2,588	2,669	3,210	\$399,375,360,000
Cars and trucks, new	1,798	1,572	1,305	1,297	1,219	1,265	1,639	\$203,917,824,000
Cars and trucks, used	1,568	1,567	1,315	1,304	1,318	1,339	1,516	\$188,614,656,000
Other vehicles	54	105	134	55	51	64	56	\$6,967,296,000
Gasoline and motor oil	2,227	2,384	2,715	1,986	2,132	2,655	2,756	\$342,890,496,000
Other vehicle expenses	2,355	2,592	2,621	2,536	2,464	2,454	2,490	\$309,795,840,000
Vehicle finance charges	298	305	312	281	243	233	223	\$27,744,768,000
Maintenance and repairs	688	738	731	733	787	805	814	\$101,274,624,000
Vehicle insurance	886	1,071	1,113	1,075	1,010	983	1,018	\$126,655,488,000
Vehicle rental, leases, licenses, and other charges	482	478	465	447	423	433	434	\$53,996,544,000
Public and other transportation	505	538	513	479	493	516	542	\$67,433,472,000

Reconstructing Other Veh. Exp.

- **data** qtr1; set interv.mtbi111x;
- */**
- VRNTLOPQ Vehicle rental, leases, licenses, and other charges last quarter
- 450310 450313 450314 450410 450413 450414 520110 520310 520410 520511 520512
- 520521 520522 520531 520532 520541 520542 520550 520560 520902 520905 620113
- VRNTLOCQ Vehicle rental, leases, licenses, and other charges this quarter same UCCs as above
NUM(12,4)**/**
- where ucc in
("450310","450313","450314","450410","450413","450414","520110",
"520310","520410","520511","520512","520521","520522","520531",
"520532","520541","520542","520550","520560","520902","520905",
"620113") and ref_mo = "12";
- tcount = 1;

Interview						2010	Dec-10		Annual Expense
HH with	Item	UCC Code	Households	Total Exped - MS	Average Per HH	Total HH	Total Monthly Expend	Total Annual Expend	Average Per HH
Expense									
140	Basic Lease Charge - Auto	450310	6,869	\$ 49,083.00	\$ 7.15	121,107,000	865,379,950.65	10,384,559,407.77	\$ 85.75
1	Termination Fee Auto	450314	6,869	\$ 350.00	\$ 0.05	121,107,000	6,170,832.73	74,049,992.72	\$ 0.61
83	Basic Lease Charge - Truck or Van	450410	6,869	\$ 35,242.00	\$ 5.13	121,107,000	621,349,962.73	7,456,199,552.77	\$ 61.57
2	Cash Down Payment - Auto	450413	6,869	\$ 5,000.00	\$ 0.73	121,107,000	88,154,753.24	1,057,857,038.87	\$ 8.73
2	Termination Fee - Truck or Van	450414	6,869	\$ 22,761.00	\$ 3.31	121,107,000	401,298,067.70	4,815,576,812.35	\$ 39.76
426	Automobile Finance Charges	520110	6,869	\$ 54,252.00	\$ 7.90	121,107,000	956,514,334.55	11,478,172,014.56	\$ 94.78
132	Drivers Licenses	520310	6,869	\$ 5,017.00	\$ 0.73	121,107,000	88,454,479.40	1,061,453,752.80	\$ 8.76
142	Vehicle Inspection	520410	6,869	\$ 5,066.00	\$ 0.74	121,107,000	89,318,395.98	1,071,820,751.78	\$ 8.85
32	Auto Rental Local	520511	6,869	\$ 3,230.00	\$ 0.47	121,107,000	56,947,970.59	683,375,647.11	\$ 5.64
42	Auto Rental Out of State	520512	6,869	\$ 13,336.00	\$ 1.94	121,107,000	235,126,357.84	2,821,516,294.07	\$ 23.30
12	Truck Rental Local	520521	6,869	\$ 704.00	\$ 0.10	121,107,000	12,412,189.26	148,946,271.07	\$ 1.23
1	Truck Rental Out of State	520522	6,869	\$ 600.00	\$ 0.09	121,107,000	10,578,570.39	126,942,844.66	\$ 1.05
734	Local Parking Fees	520531	6,869	\$ 17,378.00	\$ 2.53	121,107,000	306,390,660.36	3,676,687,924.30	\$ 30.36
77	Parking Fees Out of Town	520532	6,869	\$ 3,684.00	\$ 0.54	121,107,000	64,952,422.19	779,429,066.24	\$ 6.44
681	Local Tolls	520541	6,869	\$ 15,634.00	\$ 2.28	121,107,000	275,642,282.43	3,307,707,389.14	\$ 27.31
138	Out of Town Tolls	520542	6,869	\$ 2,243.00	\$ 0.33	121,107,000	39,546,222.30	474,554,667.64	\$ 3.92
16	Towing	520550	6,869	\$ 1,452.00	\$ 0.21	121,107,000	25,600,140.34	307,201,684.09	\$ 2.54
30	GPS	520560	6,869	\$ 773.00	\$ 0.11	121,107,000	13,628,724.85	163,544,698.21	\$ 1.35
144	Auto Clubs	620113	6,869	\$ 12,979.00	\$ 1.89	121,107,000	228,832,108.46	2,745,985,301.50	\$ 22.67
					\$ 36.22		4,386,298,425.97	52,635,581,111.66	\$ 434.62

	2006	2007	2008	2009	2010	2011	2012	
Transportation	8,508	8,758	8,604	7,658	7,677	8,293	8,998	\$1,119,495,168,000
Vehicle purchases (net outlay)	3,421	3,244	2,755	2,657	2,588	2,669	3,210	\$399,375,360,000
Cars and trucks, new	1,798	1,572	1,305	1,297	1,219	1,265	1,639	\$203,917,824,000
Cars and trucks, used	1,568	1,567	1,315	1,304	1,318	1,339	1,516	\$188,614,656,000
Other vehicles	54	105	134	55	51	64	56	\$6,967,296,000
Gasoline and motor oil	2,227	2,384	2,715	1,986	2,132	2,655	2,756	\$342,890,496,000
Other vehicle expenses	2,355	2,592	2,621	2,536	2,464	2,454	2,490	\$309,795,840,000
Vehicle finance charges	298	305	312	281	243	233	223	\$27,744,768,000
Maintenance and repairs	688	738	731	733	787	805	814	\$101,274,624,000
Vehicle insurance	886	1,071	1,113	1,075	1,010	983	1,018	\$126,655,488,000
Vehicle rental, leases, licenses, and other charges	482	478	465	447	423	433	434	\$53,996,544,000
Public and other transportation	505	538	513	479	493	516	542	\$67,433,472,000
					Tolls		27.36	\$3,404,021,760
Health care	2,766	2,853	2,976	3,126	3,157	3,313	3,556	\$442,423,296,000
Health insurance	1,465	1,545	1,653	1,785	1,831	1,922	2,061	\$256,421,376,000
Medical services	670	709	727	736	722	768	839	\$104,385,024,000
Drugs	514	481	482	486	485	489	515	\$64,074,240,000
Medical supplies	117	118	114	119	119	134	142	\$17,667,072,000
					All Other Veh Cost	420		\$52,254,720,000

Frequency and Average Rate of Road Pricing from MTBI Files							
		2010	2011	2011	2011	2011	2011
		December	March	June	September	December	
520541	P HH	\$ 2.28	\$ 2.59	\$ 2.84	\$ 2.75	\$ 2.72	
520542	P HH	\$ 0.33	\$ 0.30	\$ 0.45	\$ 0.30	\$ 0.50	
N 520541		681	746	775	731	784	
HH	All	6869	6729	6611	6781	6838	
% HH 520541		9.9%	11.09%	11.72%	10.78%	11.47%	
N 520542		138	142	204	163	178	
% HH 520542		2.0%	2.1%	3.1%	2.4%	2.6%	

Weighted		Unweighted
FINLWT 21		
\$ 324,493,153		\$ 275,642,282
12		12
\$ 3,893,917,836		\$ 3,307,707,389.16
\$ 51,123,153		39546222.3
12		12
\$ 613,477,836		\$ 474,554,668
\$ 4,507,395,672		3,782,262,057
19.2%		
17.72%	Local	
29.27%	Travel	

Detailed Prepub Data from BLS

Year	2007	2008	2009	2010	2011	2012
Total Local Tolls	\$ 1,871,062	\$ 1,771,696	\$ 2,698,514	\$ 2,961,066	\$ 3,710,188	\$ 3,883,023
Total Travel Tolls	\$ 520,340	\$ 520,519	\$ 542,603	\$ 517,127	\$ 530,726	\$ 549,919
Total Tolls (Consumer Units)	\$ 2,391,403	\$ 2,292,215	\$ 3,241,117	\$ 3,478,193	\$ 4,240,913	\$ 4,432,942
Tolls or electronic toll passes	15.57	14.67	22.33	24.45	30.34	31.21
Tolls on out-of-town trips	4.33	4.31	4.49	4.27	4.34	4.42

Year	2007	2008	2009	2010	2011	2012	Share	Chng 07 to 12
Total Local Tolls	\$ 1,871,062	\$ 1,771,696	\$ 2,698,514	\$ 2,961,066	\$ 3,710,188	\$ 3,883,023	88%	207.5%
Total Travel Tolls	\$ 520,340	\$ 520,519	\$ 542,603	\$ 517,127	\$ 530,726	\$ 549,919	12%	105.7%
Total Tolls (Consumer Units)	\$ 2,391,403	\$ 2,292,215	\$ 3,241,117	\$ 3,478,193	\$ 4,240,913	\$ 4,432,942	100%	185.4%

Total Data in 1000's

Thanks to William Hawk for this

State	Ann Loc Toll	Ann Tot Auto Oth Exp	% Who Pay Local Tolls-CES	Ann Toll Per HH Who Pay	Ann Toll Per HH	Ann Other Auto Per HH
Alabama	-	\$ 429,592,961.53	0.0%		\$ -	\$ 228.05
Alaska	397,012	\$ 56,336,050.43	1.3%	\$ 120.00	\$ 1.54	\$ 218.31
Arizona	-	\$ 770,724,679.94	0.0%		\$ -	\$ 323.70
Arkansas	-	\$ -				\$ -
California	611,280,535	\$ 8,750,617,618.58	14.0%	\$ 346.04	\$ 48.60	\$ 695.74
Colorado	32,811,910	\$ 724,354,082.24	9.2%	\$ 180.57	\$ 16.63	\$ 367.16
Conneticut	48,976,503	\$ 1,605,000,832.10	27.9%	\$ 128.00	\$ 35.72	\$ 1,170.60
Delaware	49,606,734	\$ 194,319,373.85	53.8%	\$ 269.14	\$ 144.92	\$ 567.69
District of Columbia	-	\$ 368,301,851.08	0.0%		\$ -	\$ 1,380.92
Florida	174,884,190	\$ 2,511,333,980.61	16.1%	\$ 146.19	\$ 23.57	\$ 338.42
Georgia	8,831,860	\$ 604,189,775.49	2.1%	\$ 117.00	\$ 2.46	\$ 168.51
Hawaii	-	\$ 153,400,698.03	0.0%		\$ -	\$ 336.89
Idaho	130,571	\$ 181,754,586.92	1.4%	\$ 16.00	\$ 0.23	\$ 313.69
Illinois	116,087,328	\$ 1,861,866,775.44	15.2%	\$ 158.00	\$ 24.00	\$ 384.92
Indiana	68,905,472	\$ 1,115,832,381.24	16.7%	\$ 165.23	\$ 27.54	\$ 445.95
Iowa	-	\$ -				\$ -
Kansas	-	\$ 203,256,930.46	0.0%		\$ -	\$ 182.77
Kentucky	-	\$ 214,813,519.15	0.0%		\$ -	\$ 124.89
Lousiana	34,235,355	\$ 188,543,330.15	9.6%	\$ 206.33	\$ 19.81	\$ 109.09
Maine	11,526,473	\$ 287,461,309.09	14.3%	\$ 144.80	\$ 20.69	\$ 515.89
Maryland	123,047,452	\$ 704,398,263.21	18.4%	\$ 310.67	\$ 57.06	\$ 326.65
Massachussetts	104,066,207	\$ 1,471,554,315.08	22.1%	\$ 184.52	\$ 40.86	\$ 577.74
Michigan	10,851,306	\$ 2,847,018,189.25	2.7%	\$ 104.80	\$ 2.80	\$ 735.19
Minnesota	371,063	\$ 618,190,273.13	1.1%	\$ 16.00	\$ 0.18	\$ 296.18
Mississippi	-	\$ -				\$ -
Missouri	6,300,534	\$ 246,960,256.57	2.2%	\$ 122.00	\$ 2.65	\$ 103.96
Montana	-	\$ -				\$ -
Nebraska	-	\$ 253,685,943.16	0.0%		\$ -	\$ 351.79
Nevada	-	\$ 546,716,494.25	0.0%		\$ -	\$ 543.32
New Hampshire	50,028,997	\$ 572,427,208.62	70.0%	\$ 137.71	\$ 96.40	\$ 1,103.00
New Jersey	556,936,459	\$ 2,326,897,611.83	34.9%	\$ 496.69	\$ 173.27	\$ 723.91
New Mexico	-	\$ -				\$ -
New York	603,621,405	\$ 3,708,930,326.18	17.6%	\$ 467.79	\$ 82.49	\$ 506.84
North Carolina	-	\$ -				\$ -
North Dakota	-	\$ -				\$ -
Ohio	58,570,258	\$ 2,097,397,767.09	7.3%	\$ 173.23	\$ 12.72	\$ 455.62
Oklahoma	-	\$ -				\$ -
Oregon	-	\$ 396,139,030.40	0.0%		\$ -	\$ 260.80
Pennsylvania	146,048,590	\$ 2,264,966,193.13	16.0%	\$ 181.74	\$ 29.10	\$ 451.29
Rhode Island	-	\$ -				\$ -
South Carolina	600,394	\$ 617,019,962.06	1.9%	\$ 17.33	\$ 0.33	\$ 342.56

Mapping CES Data on Local Tolls

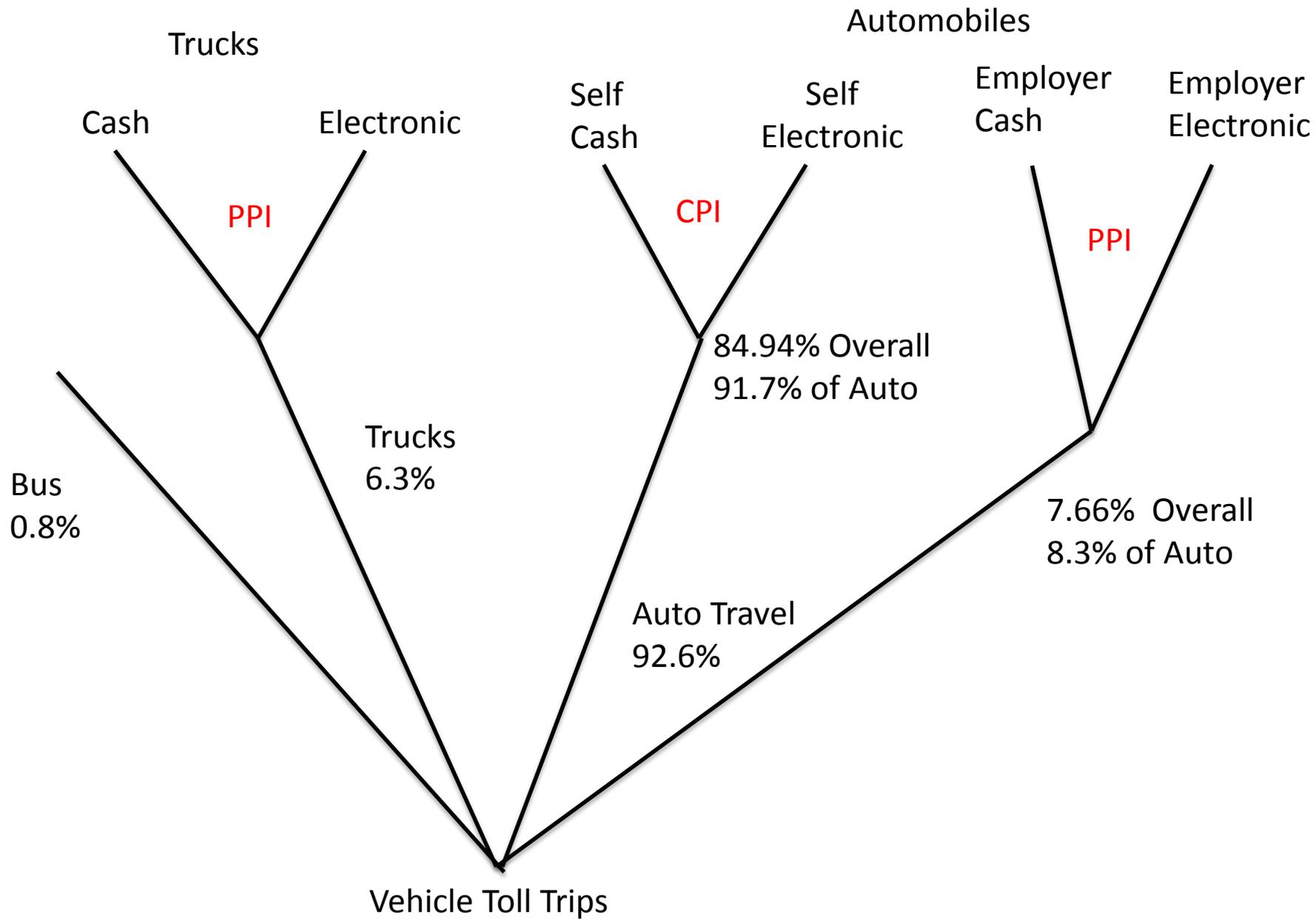
Various Perspectives

Fun Comparisons

- CES - Local vs Out of Town – 87.4% Local 12.5% Travel
- In NYC MTA – 65% of tolls collected by users within 15 miles of the facility. Point Facilities
- For Auto – MTA - 92% Self Pay 8% Employer Pay
- Overall MTA Revenue - 70% Automobile 29% Truck
- CES has been Tracking Toll Charges
- Local Tolls since 2005
- Travel Tolls since – 1995

So, Just How Much Tolling Should we see in the CES?

- We compared the CES data to our local toll agency data to get a general idea of the impact of road pricing on household expenditures.
- We constructed a split of tolling by payer to get an estimate of the percentage of tolling that we may look to find in the CES data.
- Based on MTA Bridges and Tunnels.



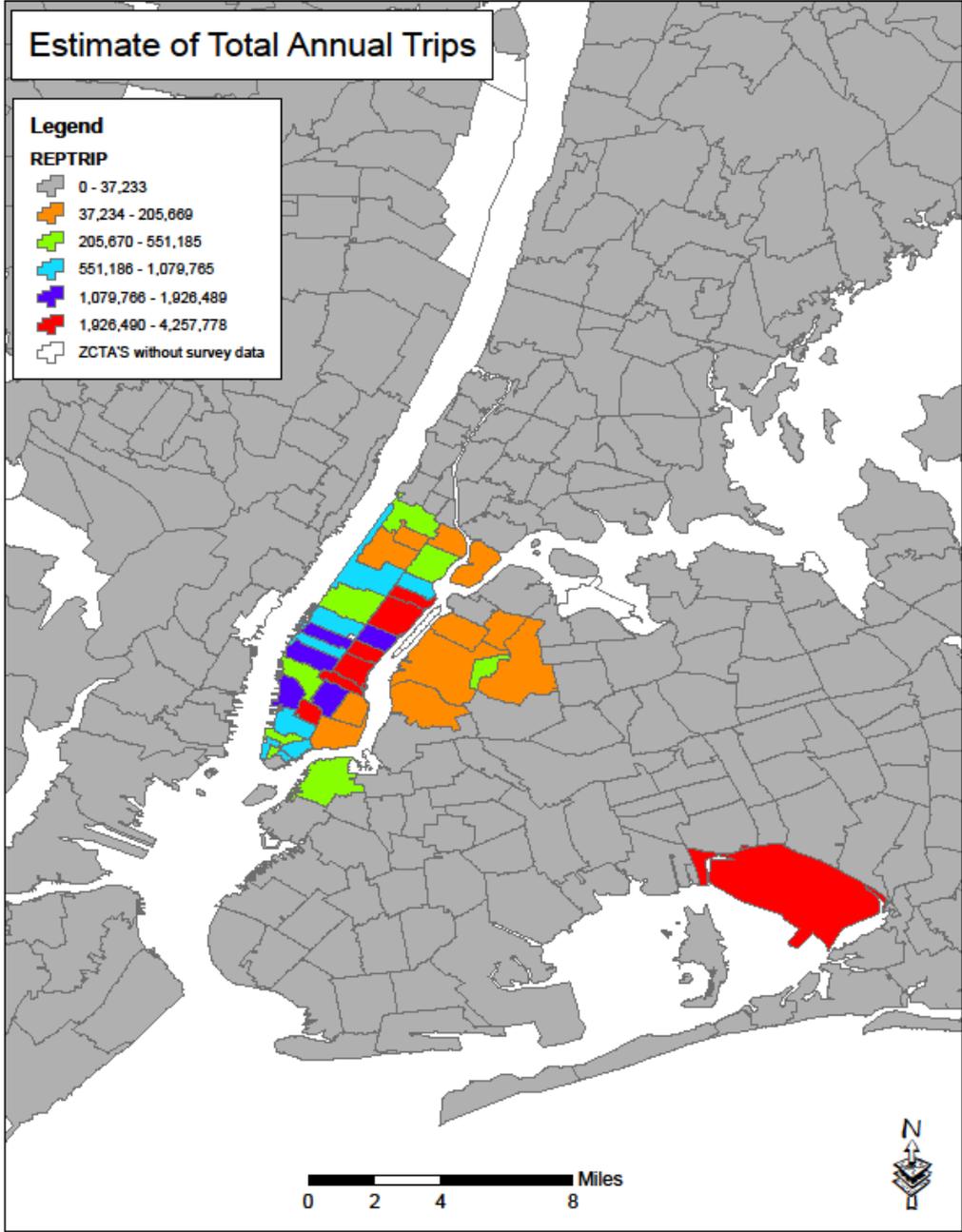
		Percent of Trans.	Percent of Trans.				
	ETC Share	70.1%	83.3%	2013			% of Revenue
Method	Share of Trans	2004	2014	Price	Weighted %	By Class	
Auto ETC Self Pay	84.9	59.54%	70.8%	\$ 5.33	3.2	40.3%	
Auto Cash Self Pay	84.9	25.40%	14.2%	\$ 7.50	1.9	24.2%	64.5%
Auto ETC Employer	7.7	5.37%	6.4%	\$ 5.33	0.3	3.6%	
Auto Cash Employer	7.7	2.29%	1.3%	\$ 7.50	0.2	2.2%	
Truck ETC	6.3	4.42%	5.2%	\$ 40.00	1.8	22.4%	
Truck Cash	6.3	1.88%	1.1%	\$ 26.26	0.5	6.3%	
Other		1.10%	1.1%	\$ 7.00	0.1	1.0%	
		100.00%	100.0%		\$ 7.87	100.0%	

Based on MTA 61,201 Observation User Survey in October 2004

Oh – FYI – Wealthier Travelers tended to have more Employer Pay
Low Income Travelers tended to use cash more frequently

CES Data on Tolling

- CES data seems to indicate a national total HH cost of tolling in the 3.5 to 4.6 Billion Dollars a year.
- Yet, based on our analysis of the Top Down data, we expect in the range of 8-9 Billion Dollars in tolling expense in consumer expenditures.
- 2/3 to CPI and 1/3 to PPI



Some tolling may be
Buried in other service
Or product prices

Example:

Geographic
Dispersion of
Tolls on
NYC "Yellow"
Taxi Trips

Annual
Estimate

\$53,000,000

Further Challenges

- The Federal Highway Administration data on tolling and the CPI data channel into the National Income and Product Accounts in the Personal Consumption Expenditures on Services.
- This means that valuation in the National Income and Product Accounts (NEPA) may be off and potentially understates the services sector.

Table 5.B—Summary of Methodology Used to Prepare Estimates of PCE for Services

Line in NIPA table group 2.4	Component	Current-dollar estimates			Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)
		Benchmark year	Indicator series used to interpolate and extrapolate*		
			Nonbenchmark years	Current quarterly estimates	
69	Motor vehicle services:				
70	Motor vehicle maintenance and repair	Commodity-flow method, starting with receipts from EC.	SAS, National Automobile Dealers Assn. (NADA), and ARTS receipts data, except most recent year based on SAS, NADA, and MRTS receipts data.	Judgmental trend.	CPI for motor vehicle maintenance and repair.
71	Other motor vehicle services	<p><u>Motor vehicle leasing</u>: BLS consumer expenditures survey data.</p> <p><u>Motor vehicle rental</u>: commodity-flow method, starting with receipts from EC.</p> <p><u>Parking fees and tolls</u>: commodity-flow method, starting with state and local government enterprise receipts from Federal Highway Administration.</p>	<p><u>Motor vehicle leasing</u>: same as for benchmark year, except most recent year based on personal lease registrations from R.L. Polk & Co. and on BEA estimate of average expenditures.</p> <p><u>Motor vehicle rental</u>: SAS receipts data.</p> <p><u>Parking fees and tolls</u>: same as for benchmark year, except most recent year based on judgmental trend.</p>	<p><u>Motor vehicle leasing</u>: same as for most recent year.</p> <p><u>Other components</u>: judgmental trend.</p>	<p><u>Motor vehicle leasing</u>: CPI for leased cars and trucks.</p> <p><u>Motor vehicle rental</u>: CPI for car and truck rental.</p> <p><u>Parking fees and tolls</u>: CPI for parking fees and tolls.</p>
72	Public transportation:				
73	Ground transportation:				
	Railway	Commodity-flow method, starting with passenger revenue from Amtrak annual report.	Passenger revenue from Amtrak monthly reports.	Same as for nonbenchmark years.	CPI for intercity train fare.
	Intracity mass transit	Commodity-flow method, starting with receipts from American Public Transit Assn. (APTA).	Same as for benchmark year, except most recent year based on number of passenger trips from APTA times CPI for intracity transportation.	Judgmental trend.	CPI for intracity mass transit.
	Taxicab	Variation of commodity-flow method, based primarily on BLS consumer expenditures survey	Same as for benchmark year, except most recent year based on CES data on number of	Judgmental trend.	CPI for intracity mass transit.



MIT economist Amy Finkelstein has found that when toll authorities implement electronic toll collection systems like E-ZPass, toll rates begin to creep up more than they would have under the old manual toll system.

Photo / Patrick Gillooly

Life in the FastLane

MIT economist finds E-ZPass program hides tax hikes

Sarah H. Wright, News Office

April 9, 2008

Eighteen months of road trips between Boston and New York and one Eureka moment inspired MIT economist Amy Finkelstein to study the hidden cost of E-ZPass, the popular

RELATED

[E-ZTax: Tax Salience and Tax Rates](#)

*E-ZTAX: TAX SALIENCE AND TAX RATES**

AMY FINKELSTEIN

This paper examines whether the salience of a tax system affects equilibrium tax rates. I analyze how tolls change after toll facilities adopt electronic toll collection (ETC); drivers are substantially less aware of tolls paid electronically. I estimate that, in steady state, tolls are 20 to 40 percent higher than they would have been without ETC. Consistent with a salience-based explanation for this toll increase, I find that under ETC, driving becomes less elastic with respect to the toll and toll setting becomes less sensitive to the electoral calendar. Alternative explanations appear unlikely to be able to explain the findings.

I. INTRODUCTION

Table 2 lists the E-ZPass annual TBTA-wide participation rates starting in 2004, the eighth year since all nine crossings had E-ZPass in operation. Implementation of E-ZPass started in October 1995 on the Verrazano-Narrows Bridge and was phased in gradually on the remaining crossings through December 1996. Also shown are the participation rates for each of the facilities for 2013. Based on customer acceptance of the technology, TBTA expects that the E-ZPass share of total transactions will continue to increase moderately over time.

Table 2 E-ZPass Participation Rates

Year	Annual Participation Rates for all Facilities									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Percent Participation	70.1%	71.5%	72.6%	73.5%	74.0%	73.9%	75.8%	79.4%	81.0%	83.3%
Facility	2013 Participation Rate by Facility									
	Throgs Neck	Bronx-Whitestone	RFK Bronx	RFK Manhattan	Queens Midtown	Hugh L. Carey ^(a)	Verrazano-Narrows	Henry Hudson	Marine Parkway	Cross Bay
Percent Participation	82.2%	77.6%	74.3%	83.9%	87.6%	88.4%	84.3%	93.4%	85.6%	82.5%

Source: TBTA data.

Notes:

(a) Formerly the Brooklyn-Battery Tunnel.

TBTA continues to undertake efforts to increase E-ZPass market share. The most recent toll increase continued to widen the gap between E-ZPass and cash tolls, which has contributed toward a bigger shift toward E-ZPass. In addition, TBTA began selling E-ZPass On-the-Go pre-paid tags in the cash toll lanes at each facility in 2012. The program has been very successful and over 310,000 tags have been sold in the lanes through April 2013. In 2013, On-the-Go accounts represented 49 percent of the total E-ZPass accounts opened for the year.

In another initiative, TBTA launched its MTA Cash Reload Card pilot program in February 2012. This program allows customers who wish to replenish their accounts with cash to receive a MTA credit/debit type card that is directly linked to their E-ZPass accounts. Customers can go to any

With ETC - People Do Not Know

- "I walked around and asked people, 'When you got off the highway, how much did you pay in tolls?'" Finkelstein says. "And almost everyone replied, 'No idea--I used E-ZPass.'"
- Amy Finkelstein - MIT

Further Examination

- So – we appear to have a problem.
- Users are likely to have recall problems for the CES if they use electronic tolling
- Growing expenditure category
- Variety of tolling systems
- Possible Solution – get electronic toll data from agencies either at bill level or transaction level. Augment this with survey data of cash users.

Bill Info - Not a New Idea

- I was an analyst at AT&T Corporation from 1991 to 1997.
- BLS worked with telephone companies to get bill level information to estimate phone charges.
- I quickly remembered this as we started to look at the CES data and thought it might offer some advantages with this item.
- Perhaps this is an opportunity to improve the process.

Questions?

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